

# Portugal, the best place to *Start Up*



 Startup  
& Entrepreneurial  
Ecosystem  
REPORT 2021



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## Foreword by Startup Portugal



António Dias Martins

Executive Director, Startup Portugal

The year 2021 is a year to remember for the Portuguese economy and its biggest mavericks — the startups, its founders, and all players who have been driving innovation into our industries. The Startup & Entrepreneurial Ecosystem report is both a testament to that fact and a hallmark of everything that has been done so far by private and public stakeholders channelling their efforts into the development of this vibrant scene.

This report results from a flow of data which we can finally say is not lacking anymore, despite the need to feed more sources and to generate more relevant information, with automated, innovative interfaces, and a broader scope. The available information already confirms how our founders played an integral role in the economic recovery of Portugal. It is safe to say that this report, unveiling vital information about the startup ecosystem, will definitely help to shape what comes next for Portuguese tech companies, either in public policy or in private initiatives.

Thanks to the efforts of IDC, the partnership between Dealroom.co and Startup Portugal, and a commitment from the most prominent stakeholders to collaborate, to share and to report relevant data,

we now know what the ecosystem looks like in Portugal, who is tapping into it, and whose players have had a role to play in its development over the last years.

This report, as well as all the data now being collected, will serve as a means to outline the next steps for Startup Portugal, but also for how we can influence public policy and collaborate further with the Portuguese government in the development of our more exciting than ever startup ecosystem. At the same time, it will serve as a new canvas for the ongoing promotion of the Portuguese tech scene that Startup Portugal and other agents have been developing over the last years.

We all must keep reminding ourselves who we are working for, what their most pressing needs are, and how we can address them. Something only attainable through meaningful data, which this report helps to provide, marking a new era for how all players will contribute to the development of Portugal's economy, innovation efforts, and their key actors, the startups.

## Foreword by IDC



Gabriel Coimbra

Group Vice President and Country Manager, IDC

Welcome to the final edition of the “Startup & Entrepreneurial Ecosystem Report, Portugal 2021”!

The purpose of this study is to provide a comprehensive and in-depth view of the Portuguese startup and entrepreneurial ecosystem. It provides a detailed view of where we are today, who are the major players, what are the key KPI, how Portugal compares with other nations. It is also the voice of entrepreneurs that chose Portugal as the best place to start-up.

In addition to the number of startups and information about policies, regulation, public incentives, capital, talent, corporations, and key enablers of the ecosystem, this report analyzes key emerging trends, challenges, opportunities, and what is next for the Portuguese ecosystem.

This report was developed based on existing IDC research, public data, a survey carried out among more than one hundred startups founders, and more than 30 in-depth interviews with key ecosystem’s stakeholders.

Based on the data and insights provided in this report, we can say Portugal is today one of the nations with the greatest potential for attracting and developing startups and scaleups. There are several aspects related to the ecosystem that can and should be improved, but the growth we have seen in the number of startups, unicorns, existing capital, and talent in the last 5 years has been impressive.

If we add other contextual factors - such as the fact that Portugal is considered the country with the best quality of life in the world, the second friendliest country for foreign investment, and the third safest country worldwide, with one of the best communication’s infrastructure in Europe - Portugal is probably one of the best places to startup!

# Ecosystem



*A hexagon is the shape that best fills a plane with equal size units and leaves no wasted space.*

*Hexagonal packing also minimizes the perimeter for a given area because of its 120-degree angles.*

# Executive Summary

The Portuguese startup ecosystem is still young, but it is one of the best assets Portugal has, with small-scale but fast paced and steadily growing companies representing over 1% of the country's GDP.

Quality of life, the sun and sea, cost of labor, and specialized talent have obviously something to do with it, but there is significant progress on the development of the startup ecosystem.

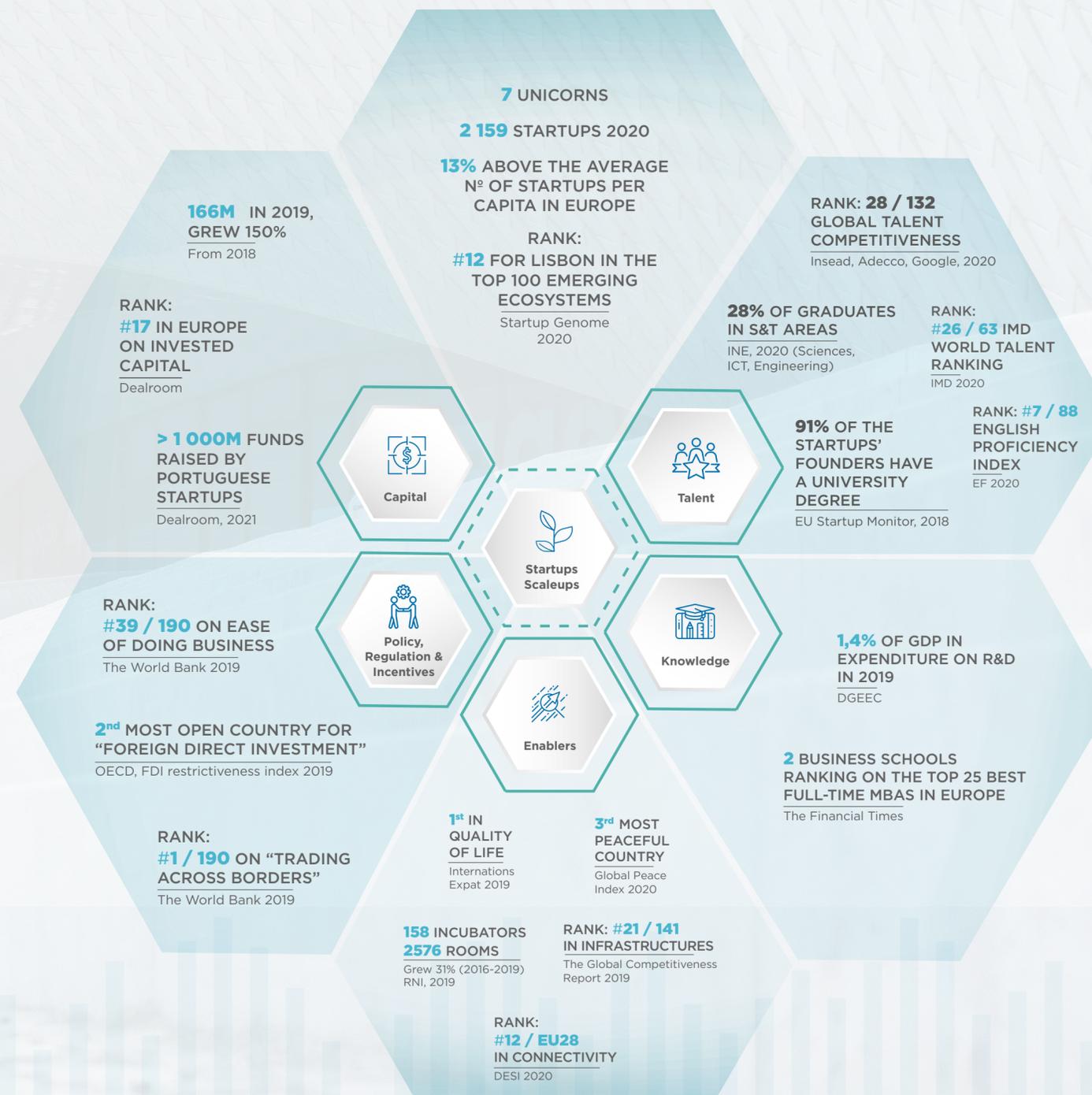
It has become a highlight in the European startup scene, especially after hosting the WebSummit in 2016, putting the country on the map as one of the hippest places to be in.

The arrival of international and experienced capital, together with the maturing of local investors has also attracted the attention of some talented engineers with a global mindset.

The proverbial local capacity to improvise and find unconventional solutions probably also play a role in terms of originality of some of the startups, with plenty of good ideas and originality.

A weakness turned strength, as the local market is quite small, it forces nascent startups to address international markets by design. This an important differentiator when looking at other ecosystems with bigger critical masses, where most often the internalization part comes quite later in the path. It is usually more efficient to build for the world from the very beginning, with global product validation.

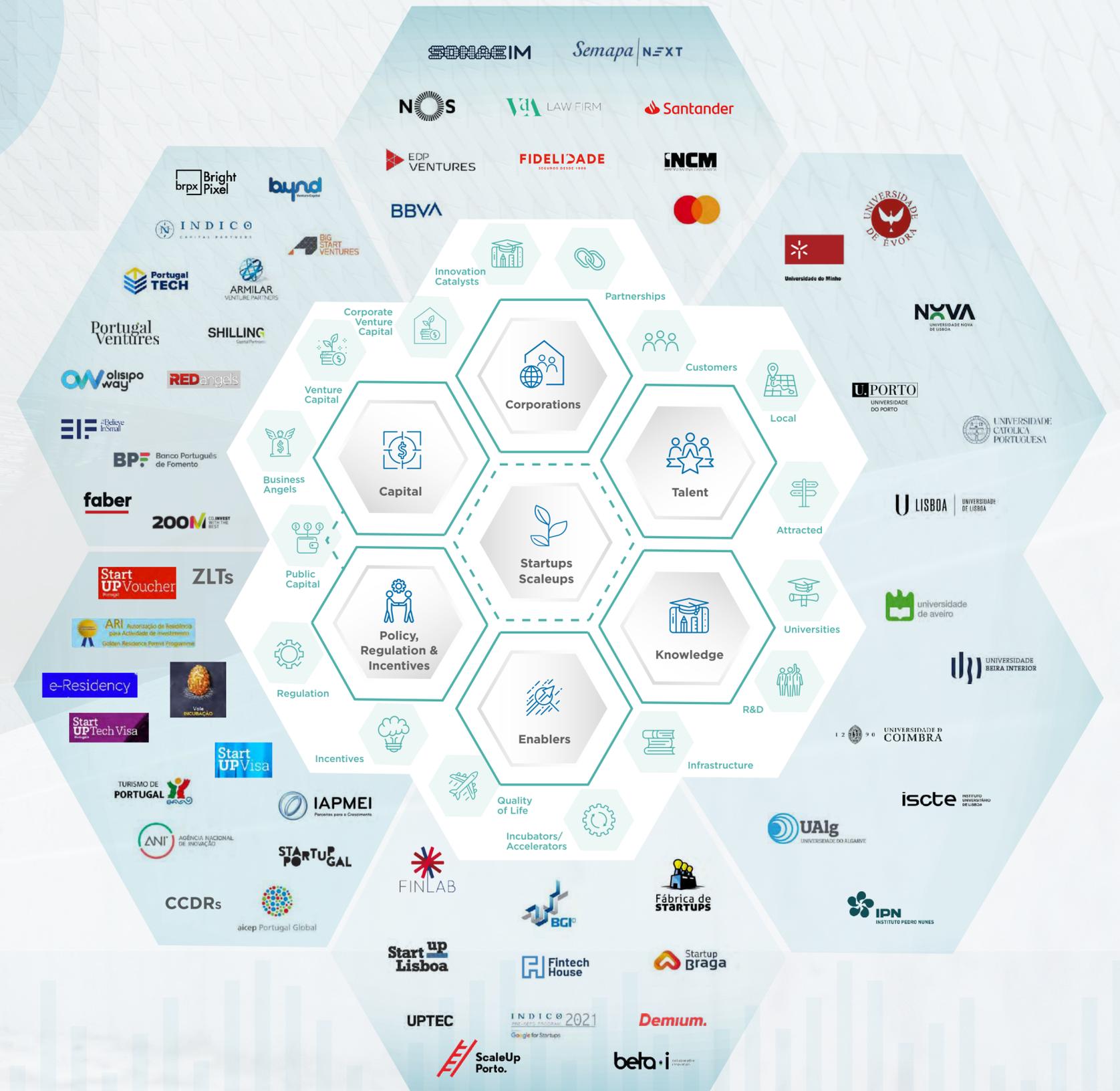
## Key KPI of the Portuguese Startup Ecosystem



## Some of the Key Players of the Portuguese Startup Ecosystem

Despite the very positive evolution, the ecosystem should not rest on its laurels, as there is still a long way to go. The world changes quickly and Portugal is not yet directly comparable to London, Paris, or Berlin, for example. In fact, some international investors estimate that the country is probably close to a decade behind these reference ecosystems, and competitors like Poland, Romania and Baltic countries are closing in.

Ironically, perhaps the most relevant threat to the ecosystem is the very same one that startups face on a daily base: failing to embrace change, learn with their mistakes and grow with a sense of urgency.



# Our world today

Key market trends & impact of pandemic

# The pandemic changes everything

**With the accelerating pace of changes, business and technology leaders need to be prepared for disruptions and opportunities.**

## **POLITICAL**

Instability, unrest, misinformation  
Loss of faith and trust in institutions and leaders  
Increase in nationalism, closed borders, trade wars, shifting alliances

## **ECONOMIC**

Recession, massive unemployment, bankruptcies  
Collapse of demand and supply  
Resource substitution (technology versus people)

## **SOCIAL**

Divisiveness, politicization, uneven impact to further split societies  
Cyberthreats  
Increasing virtual world and social networks

## **TECHNOLOGICAL**

Increased advantage of real-time data and insights  
Expansion of simulators, digital twin, online learning  
Enhanced roles for 3D printing, robots, and drones

## **ENVIRONMENTAL**

Massive COVID-19 pandemic  
Energy industry disruption  
Global food supply disruption

## **LEGAL**

Agreements and contracts in limbo  
Chained failures, force majeure  
Changing risk and liabilities posture

## **BUSINESS**

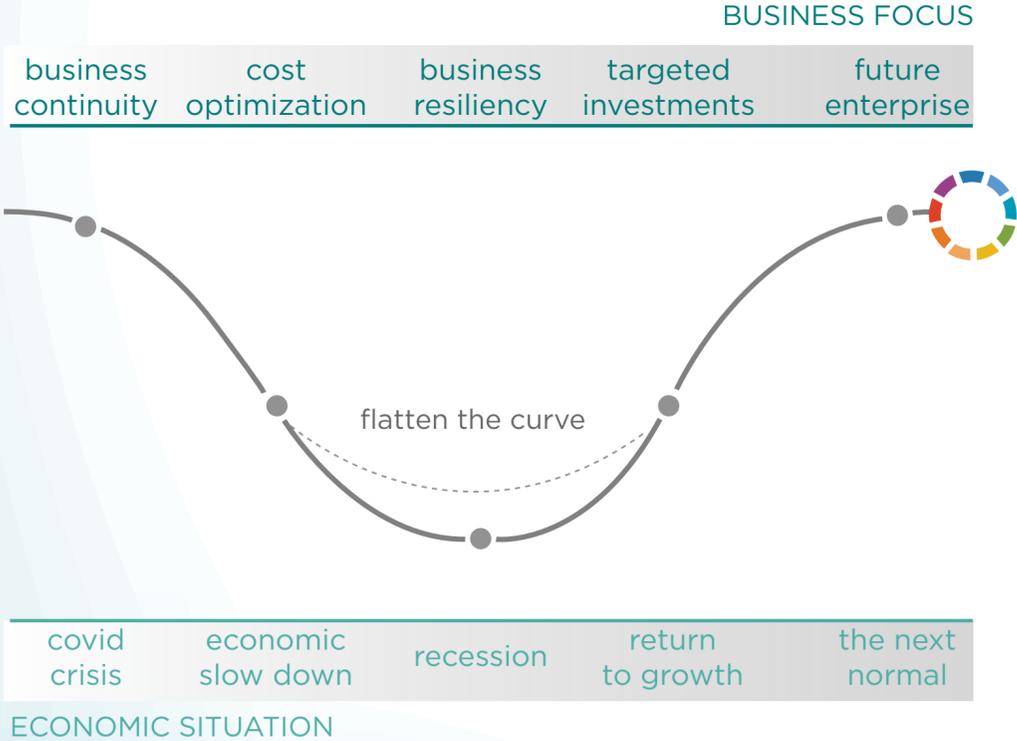
Supply chain disruption, new business and operating models  
Sea change in customer expectations, more online, more automation  
Hybrid remote/virtual and safe work mandates

# 2021 critical drivers

## ACCELERATED DISRUPTION

Crisis, Resilience, and Opportunity

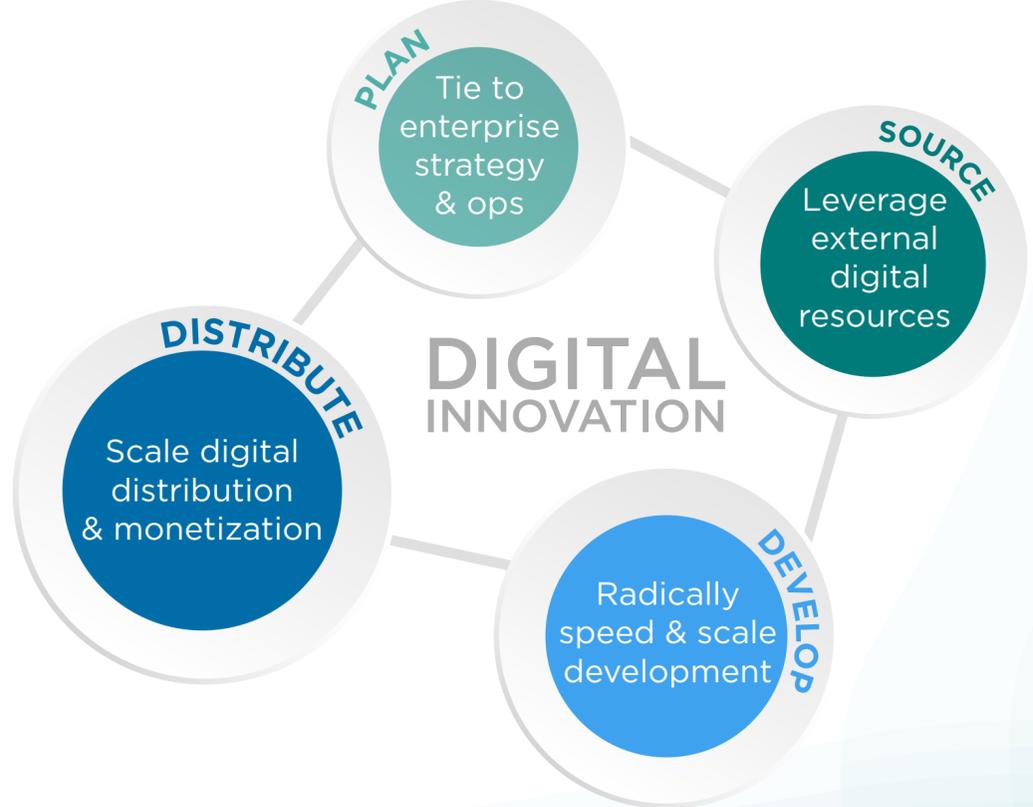
The pandemic has redefined disruption. Survival of the fittest is linked not to size or strength but to resilience and the ability to change — to move quickly, adapt, seize opportunities, and be ready for the next disruption.



## THE NEXT NORMAL

Resilient Business and Operating Models

In the post-COVID-19 economy, expected changes in behavior, consumption and supply will force companies to adopt digital-led business and operating models that can survive lockdowns, movement restrictions, social distancing, supply disruptions, and more.



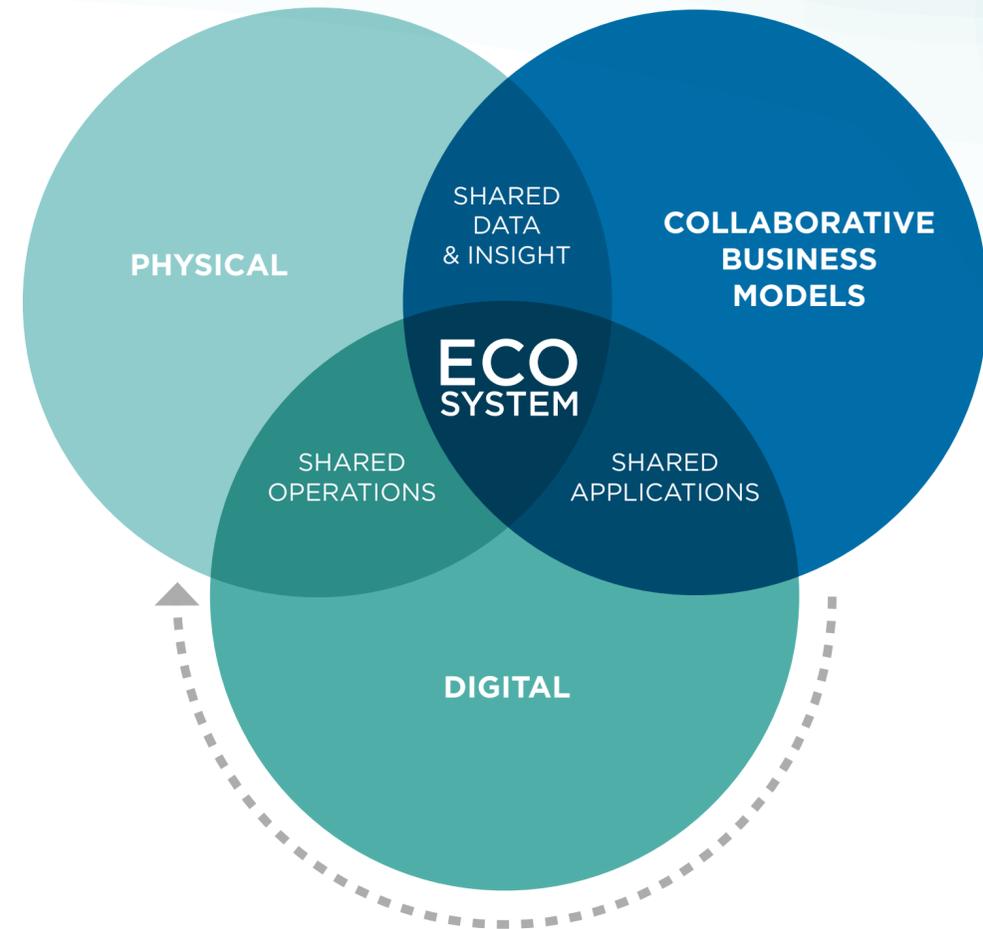
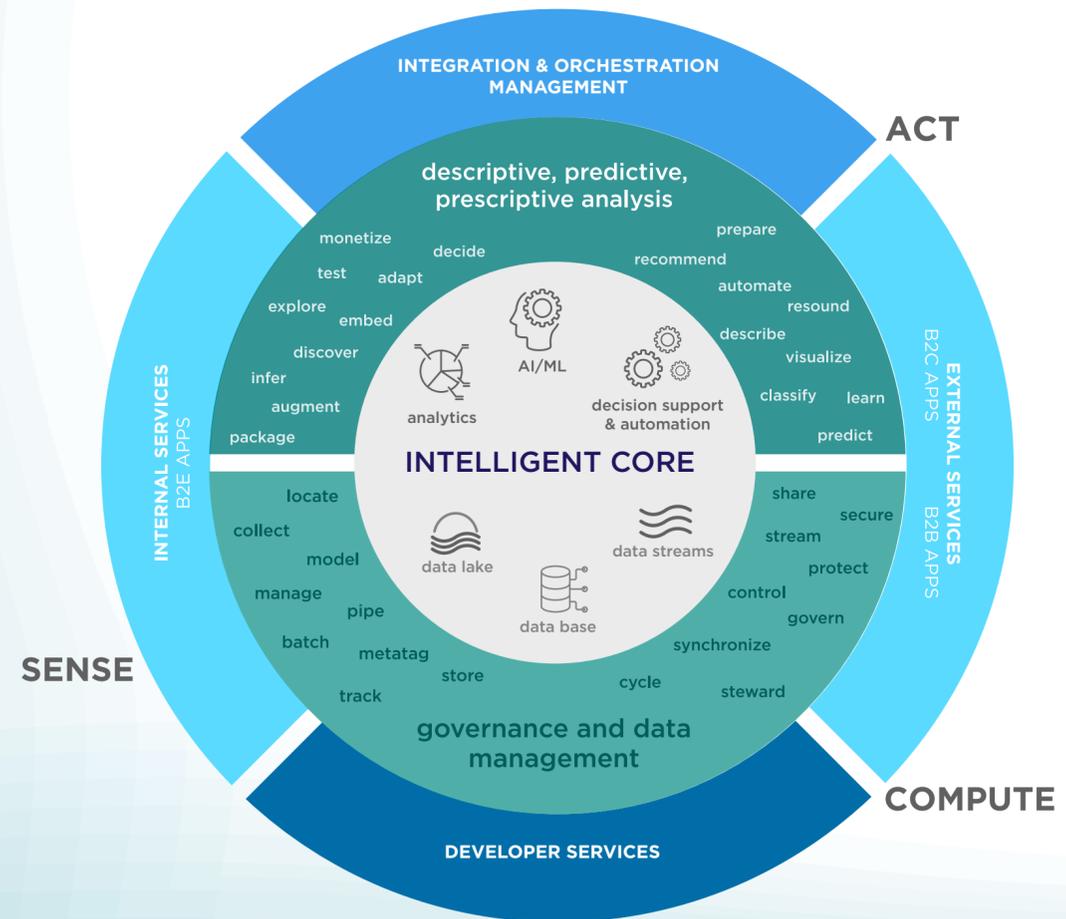
Source: IDC - Critical External Drivers Shaping Global IT and Business Planning, 2021

# 2021 critical drivers

## INTELLIGENCE EVERYWHERE

Data Drives Action

The real-time continuum of applications and data that stretches from edge to network and core, from IoT, mobile devices, and more — combined with historical data, enterprise systems, and global information — continually “sense” an environment and put it into new contexts. AI and machine learning “compute” and spread intelligence to turn data into “action” and action into value.



## DIGITAL PLATFORM

Ecosystems at Scale

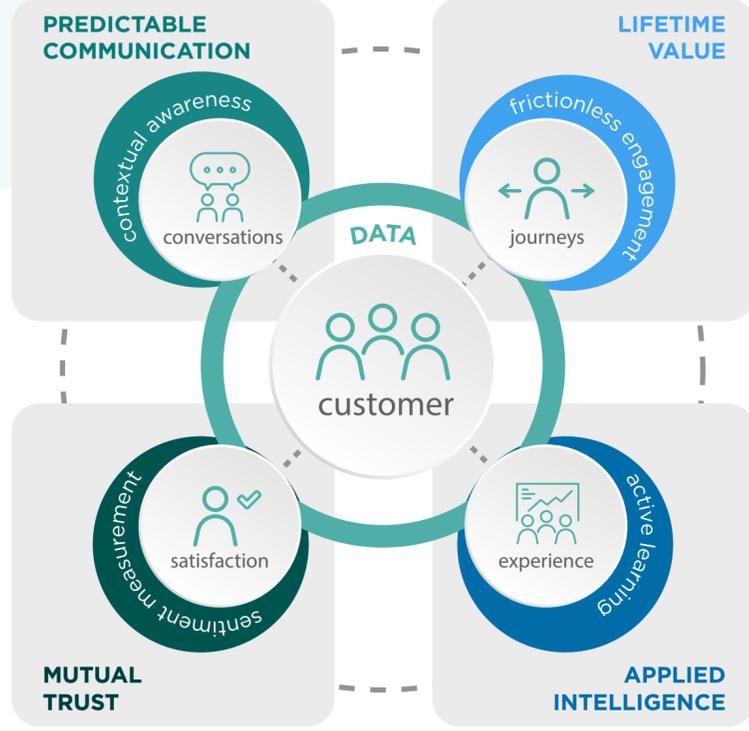
Understanding and provisioning the platforms that will sustain, advance, and scale business and operations and exert strategic control are essential for every business. A digital platform is the assembly of technologies, capabilities, and data upon which digitally enabled businesses run. The data exchanges, intelligence, and network effect within digital ecosystems generate new value beyond the platform itself.

# 2021 critical drivers

## CRISIS OF TRUST

Meeting Rising Expectations

The COVID-19 disruption has exposed, accelerated, and introduced new threats to organizations and their assets, increasing noise and dissonance and eroding trust among partners and customers. Meeting expectations of trust and social responsibility become new competitive advantages where “trust = value.”



## CUSTOMER ENGAGEMENT REDEFINED

Safe, Secure, and Sustainable Digital Experience

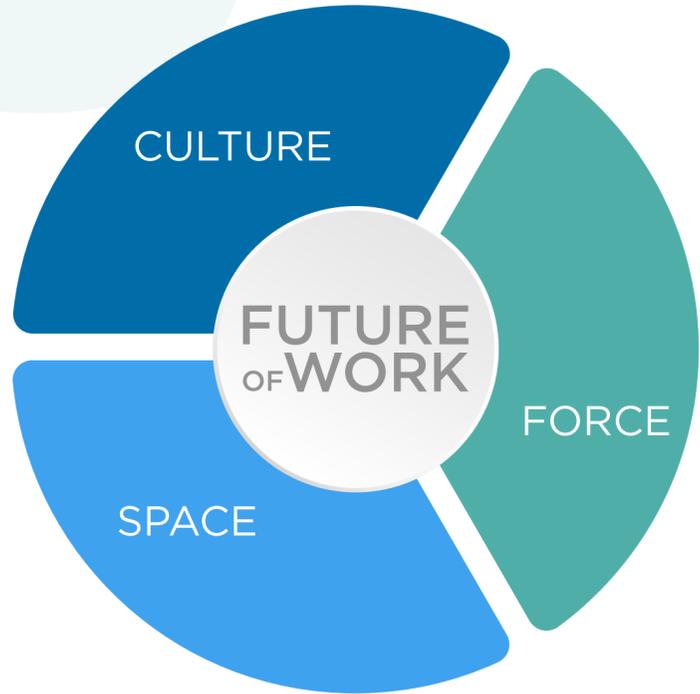
The COVID-19 pandemic has focused on what customers care about and shifted how consumers and brands engage and interact. Companies with the best price, the coolest product, or the most memorable marketing campaign will not necessarily have an advantage when compared with companies that provide a safe, secure, and seamless experience.

# 2021 critical drivers

## DIGITAL DIVIDE

The Imperative of Connectivity

Amid social distancing and working from home, access to technology and digital connectivity have become critical. People are learning to socialize, shop, educate, work, and collaborate differently and expect a rich, seamless, and interoperable experience, regardless of where people and data are located. But the digital divide — the gap between those who do or do not have access to technology and the skills to use it — becomes more consequential in people’s ability to complete everyday tasks.



## WORK TRANSFORMATION

Redefining Teams, Skills, and Leadership

Technologies are rapidly changing who or what — and where or how — work is being done. The 21st century economy requires workers to operate as agile, dynamic, and reconfigurable teams that can quickly adapt to business demands and new market requirements. Organizations need to rethink their relationship with workers and the creation and retention of skills to meet this demand.

# Impact on the startup ecosystem



**The startup and scaleup economy is worth nearly \$3 trillion worldwide.**

There are now over 500 "unicorns" (scaleups valued at \$1 billion or more) globally and Europe is home to over two hundred of them.<sup>1</sup>

These unicorns are at the forefront of disrupting financial services, creating solutions to combat climate change, and automating healthcare professionals' workflows.<sup>1</sup>

As the pandemic crisis hit across the world, startups have found themselves **being hit hard by two main shockwaves: capital shock and demand.**



- Globally, 4 out of 10 startups have three months or less of liquidity (runway), and therefore, may not survive.<sup>2</sup>
- **Venture capital has fallen by about 20%** since the beginning of the COVID-19 crisis in December 2019.<sup>3</sup>
- About **72% of startups saw their revenue drop** since the beginning of the crisis, with the average startup experiencing a decline of 32%.<sup>4</sup>
- A study conducted in Portugal found that **startups confirm that COVID-19 impacted their activity**, mainly due to a decrease in sales and a postponement or delay of projects.<sup>5</sup>

Every crisis creates opportunities, and this crisis is no different. Over half of Fortune 500 companies started during a contraction, and over 50 unicorns were created during the Great Recession.

The current crisis has accelerated the digitization of the offline economy. **Tech Economy will be crucial for recovery.**

Opportunities are unlocked for companies, they are also unlocked for ecosystems.

This is also a unique opportunity for all of us to rebuild our *economic communities* with a lower negative impact on the environment and a stronger focus on inclusion and fair access to the amazing value that tech ecosystems create.<sup>6</sup>

According to a study conducted in Portugal about **42.3% of the surveyed startups said that the pandemic generated new opportunities.**<sup>7</sup>

<sup>1</sup> Source: Purpose-Driven Start-Ups, Scale-Ups, and COVID-19, IDC 2020

<sup>4, 6</sup> Source: Startup Genome, The Global Startup Ecosystem Report, 2020

<sup>2, 3, 5, 7</sup> Source: The Impact Of Covid-19 In The National Startups Ecosystem, Startup Portugal, EY, SAP, 2020

# Definitions

It's important to start by determining what some of the concepts in this report refer to, as there are many commonly accepted definitions, used loosely, and most of the time they do not match each other.

This effect also leads to the fact that, when comparing data, numbers often refer to different concepts, depending on the source

# Startup

**A STARTUP ECOSYSTEM** is a set of interconnected entrepreneurial actors (both potential and existing), entrepreneurial organizations (e.g., firms, venture capitalists, business angels, and banks), institutions (incubators and accelerators, universities, public sector agencies, and financial bodies), and entrepreneurial processes which formally and informally coalesce to connect, mediate and govern the performance within the local entrepreneurial or startup community environment.

A Startup ecosystem produces **Startups**, which evolve naturally according to the steps below before turning into a “regular or mainstream” company.

## STARTUP

A **startup** is a young company or project, launched by a group of entrepreneurs to create, develop, and/or validate a scalable and repeatable economic model, typically in the form of an innovative product and business model and/or a new market segment. Given its nature and associated uncertainty and risk profile, a specific management framework is usually used to optimise an unfavourable risk-reward ratio, seeking to maximize success probabilities and attain exponential growth through the use of technology.

## SCALEUP

The following stage in the life of a startup is the **scaleup** status, after having achieved the elusive product-market fit and with recognizable traction. It is usually defined as a development-stage business, that is growing its market access, revenue, and its number of employees. As with any capital-intensive company, the financing goal for a scaleup is to reward its shareholders, by being acquired either via an M&A, via an IPO or shelling out significant dividends as it becomes profitable.

# Startup stages

**STARTUPS** are also commonly defined as being in different stages, which reflect different immediate goals and require different incentives, capital and risk management.

## PRE-SEED

Companies that are formally set up or are in the process of doing so, but are at a very early stage in development. They typically start by researching, assessing or developing an initial idea or concept before reaching the formal start up process and launching an MVP (Minimum Viable Product). Companies at this stage typically incur cost only and do not generate revenues, though most receive an investment (from own resources or external funders). There is minimal need for interaction with the tax authority, aside from loss relief and payroll taxes. Selling equity stakes implies capital gains taxation for investors, whilst funding this high-risk, early growth.

## EARLY STAGE AND SEED

Companies that have developed a product or service but have not yet achieved breakeven and are still in the process of refining their product/offering and finding their market fit. Companies at this stage typically incur a higher level of cost. They may also begin to generate income, if not profit. They usually receive investments (from their own resources or external funders). There is standard interaction with the tax authorities, including applicable indirect taxes, payroll taxes, and loss relief. Some jurisdictions offer small companies simplified the tax systems based on turnover rather than profit. Selling equity stakes implies capital gains taxation for investors, whilst funding this lesser-risk, more mature growth.

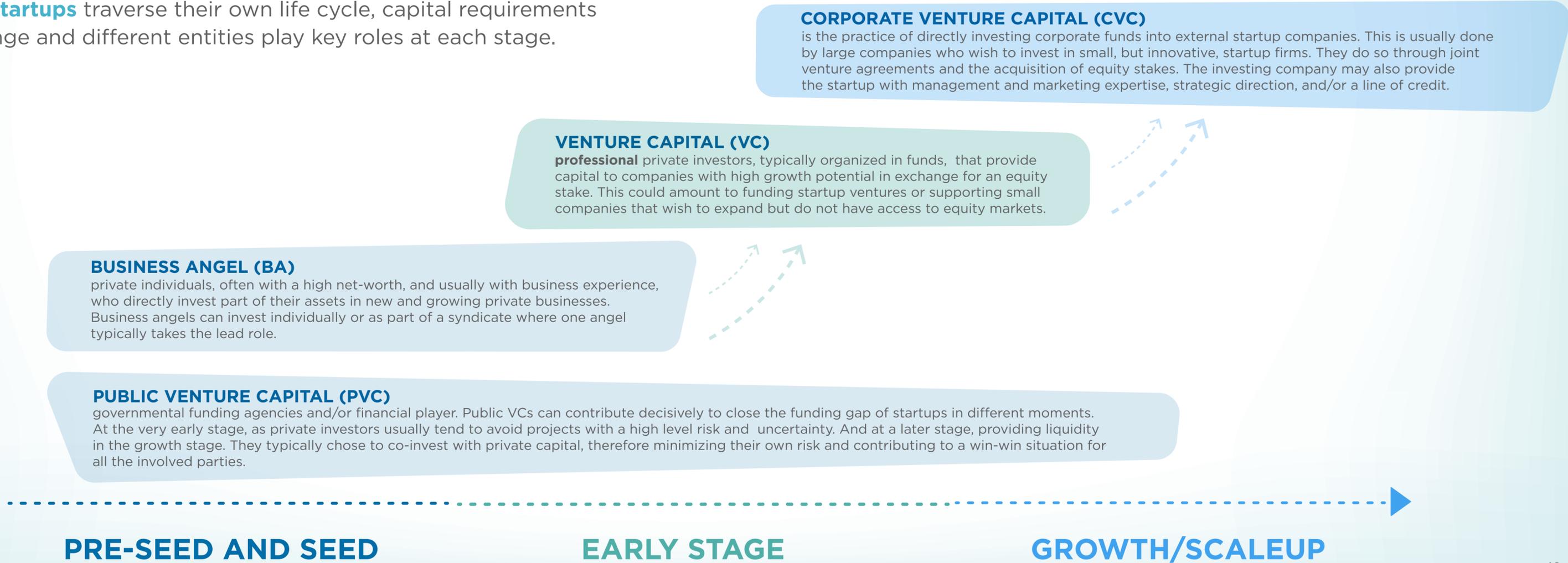
## GROWTH/SCALEUP

Companies with the scope to scale up and internationalise their activities, having found significant and scalable traction. Companies at this stage may be liable for personal or corporate income taxes on profits, as well as indirect and payroll taxes. Selling equity stakes implies capital gains taxation for investors, whilst funding this much lower risk, mature growth. Additionally traditional funding methods such as loans and venture debt become available, as revenues stabilize.

# Capital

**CAPITAL** is a key ingredient in the ecosystem, as it allows different actors to invest and develop the business, generating a multiplier effect. Capital is defined as a lot more than strictly money, as startups often lack some of the skills required to develop (business management, sales, manage for scale, access to people and markets, ...)

As **Startups** traverse their own life cycle, capital requirements change and different entities play key roles at each stage.



# Catalysts & enablers

Catalysts & Enablers support and help entrepreneurs and innovators succeed. They generally provide ongoing, diversified entrepreneurial support through offline and online activities tailored to the startups' needs. Relevant to this context are **incubators, accelerators and other** support programs.

Incubators and accelerators help startups succeed by providing mentorship, guidance, training, strategy, partnerships, R&D, and funding. They are instrumental in getting startups, especially early-stage ones, off the ground. Having access to an accelerator's resources and network can make or break a startup that hasn't cemented itself within the ecosystem.

## INCUBATORS

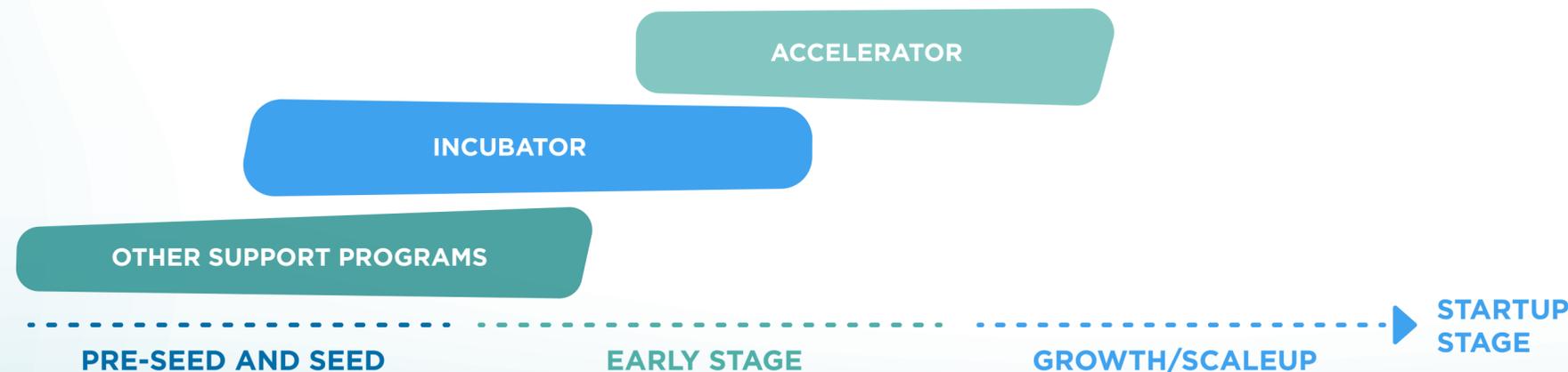
Are public and private organizations that offer structured or customized, relatively long-term, support to early-stage startups.

## ACCELERATORS

Are public and private organizations that provide an intense, structured short-term program to induce startups' rapid progression.

## OTHER SUPPORT PROGRAMS

Include all the entrepreneurial support initiatives that do not fall in the above categories. They may be short-term (usually two days to one week) programs offering more strategic support and include competitions, boot camps, events, seminars, and capacity-building workshops. Or they may be public support startup incentives (usually provided by public agencies) as policy measures to foster entrepreneurship.



# Other catalysts

## OTHER TYPES OF CATALYSTS AND ENABLERS CAN INCLUDE:

### COWORKING SPACES

Shared offices where startups can rent hot desks or private offices with no long-term commitment. Flexibility is not the only reason why startups choose to join coworking spaces. Most importantly, coworking spaces have their own communities and often organize events where entrepreneurs can expand their network and explore potential collaborations with other companies. Startups based in a coworking space often have the freelancer they need within arm's reach, and if not, there's someone who knows someone who knows someone.

### MENTORSHIP

Advisory organizations and mentors can help founders during their entrepreneurial journeys in many ways. Experienced, successful mentors help you stay accountable and loyal to your vision. Their own experience in business is often critical to succeed. They can help you prepare for the future and offer unbiased opinions on critical situations.

### EVENTS

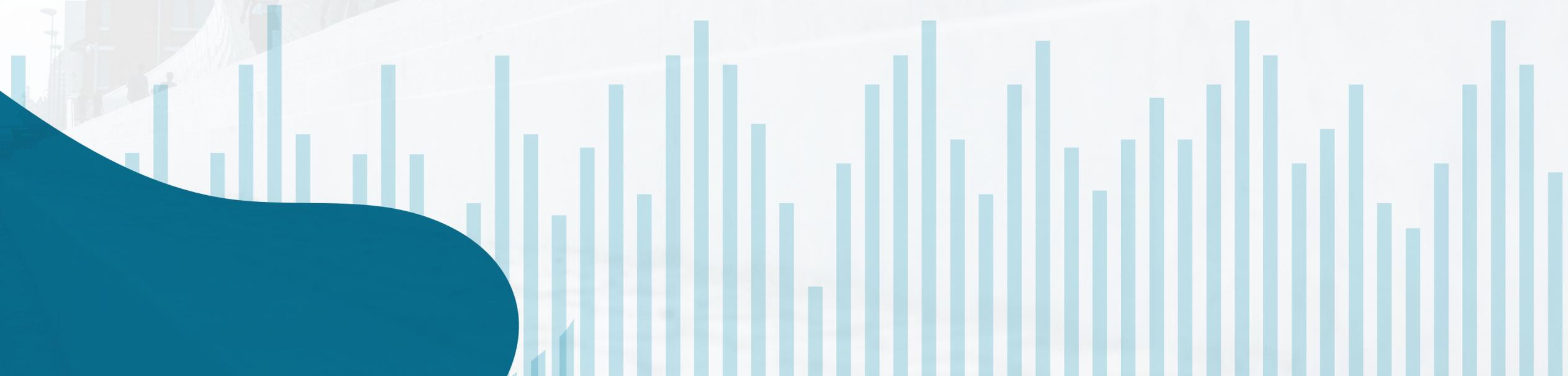
The heart and soul of every startup ecosystem is its community of people. Its potential, knowledge, links, and skills. And people have to be brought together to form a community. Conferences, workshops, meetups, networking events, and parties are crucial to building and maintaining a startup ecosystem. Without events, no ecosystem can survive for long.





# Where are we today?

A snapshot of the ecosystems

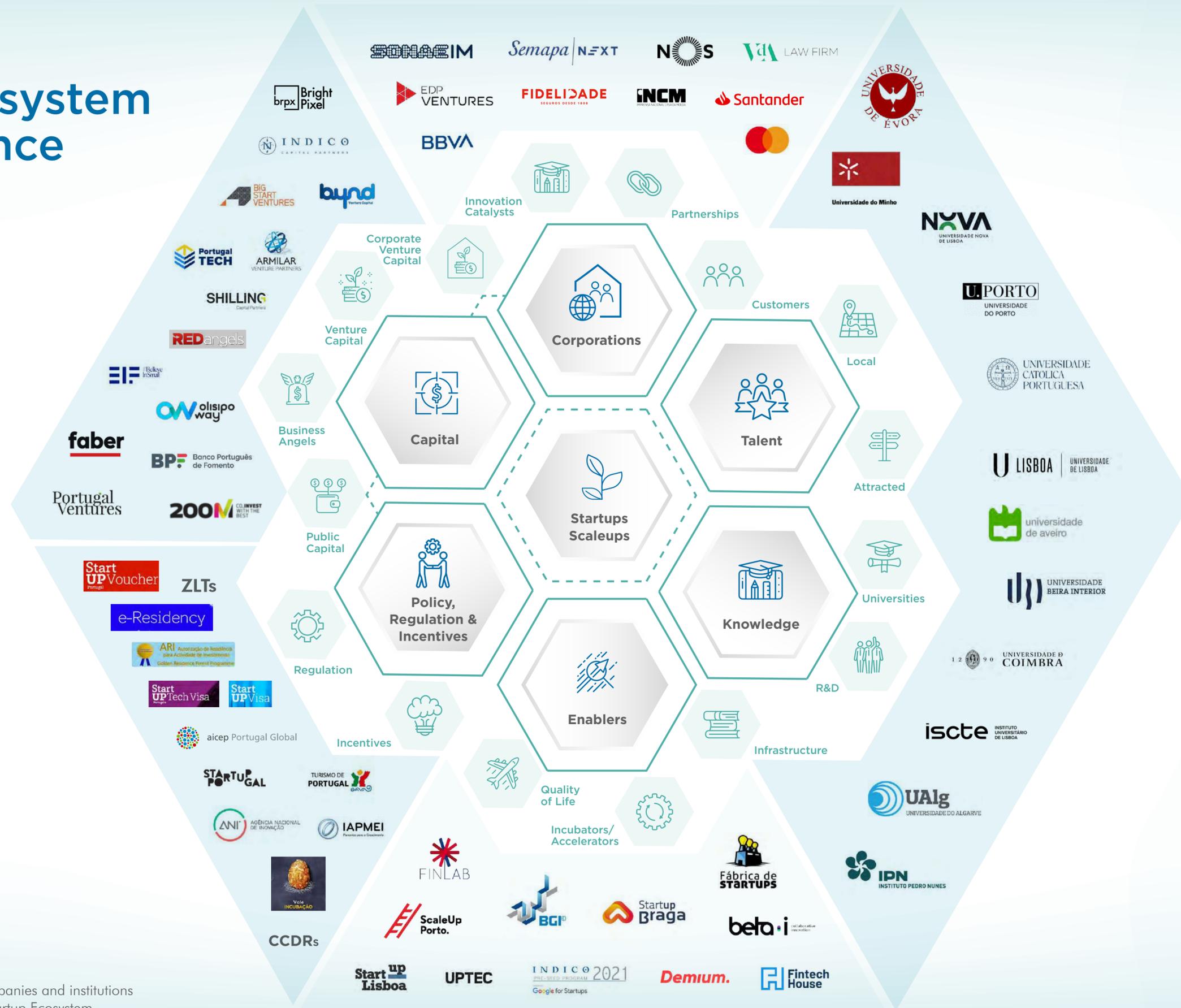




**The Portuguese startup ecosystem is still young,** but it's one of the best assets Portugal has, with small-scale but fast-paced and steadily growing companies representing over **1% of the country's GDP.**

- **12th Top 100 Emerging Ecosystem** Ranking Startup Genome
- **12th most innovative** EU country Innovation Scoreboard EU
- **1 000 M Funds raised by Portuguese Startups** Dealroom 2021

# The ecosystem at a glance



A non-exhaustive list of companies and institutions playing in the Portuguese Startup Ecosystem

**Where are we today?**

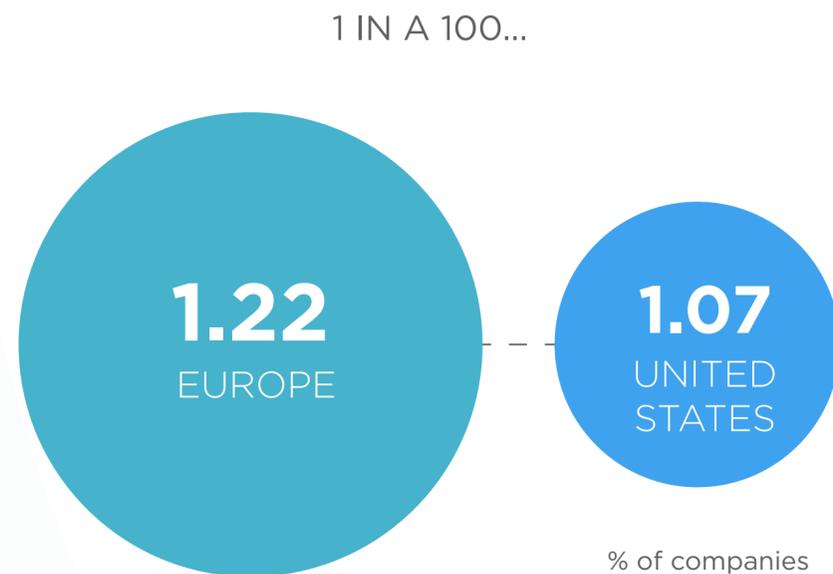


**Startups  
Scaleups**

# The odds of becoming a unicorn

LET'S CUT THROUGH THE CHASE. STARTUPS ARE RISKY BUSINESS, AND THE ODDS ARE NOT VERY INTERESTING...

And curiously, odds are slightly better in Europe than in the USA



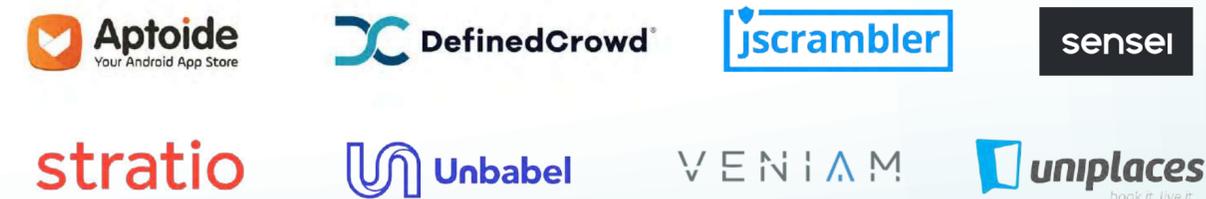
The European Unicorn list is a very limited one, with only 208 companies:

And Portugal has already produced 5:



<sup>1</sup> Source: Company valuation in November 2021

With some others lining up, like:



# Startups in Portugal

Portugal is a fashionable place, not only as a travel destination, but also as a tech place.

Quality of life, the sun and sea, cost of labour, and specialized talent have obviously something to do with it, but there is significant progress on the development of the startup ecosystem.

It has become a highlight in the European startup scene, especially after hosting the WebSummit in 2016, putting the country on the map as one of the hippest places to be in.

The arrival of international and experienced capital, together with the maturing of local investors has also attracted the attention of some talented engineers with a global mindset.

**STARTUP PORTUGAL HAS BEEN DOCUMENTING PROGRESS, AND THE CURRENT ESTIMATION POINTS TO:**

**~ 2 159**  
**STARTUPS**  
in Portugal  
in 2020<sup>1</sup>

**WHICH IS ~13% ABOVE THE AVERAGE NUMBER OF STARTUPS PER CAPITA IN EUROPE: 190**  
(PER MILLION INHABITANTS)<sup>2</sup>

<sup>1</sup> Source: Startupportugal.com;  
<sup>2</sup> Source: Dealroom.co

# The portuguese startup profile

**8.8** PEOPLE  
EMPLOYED  
on average<sup>1</sup>

**75,2%**  
B2B Business Model<sup>2</sup>

## FOCUSED ON INTERNATIONAL MARKETS

with a small domestic market, Portuguese startups have no alternative than looking to international markets, specially the European Market, taking advantage of the open economic zone. Some startups even prioritize USA markets in their business plans and are born global.

<sup>1</sup> Source: EU Startup Monitor Project (2019)

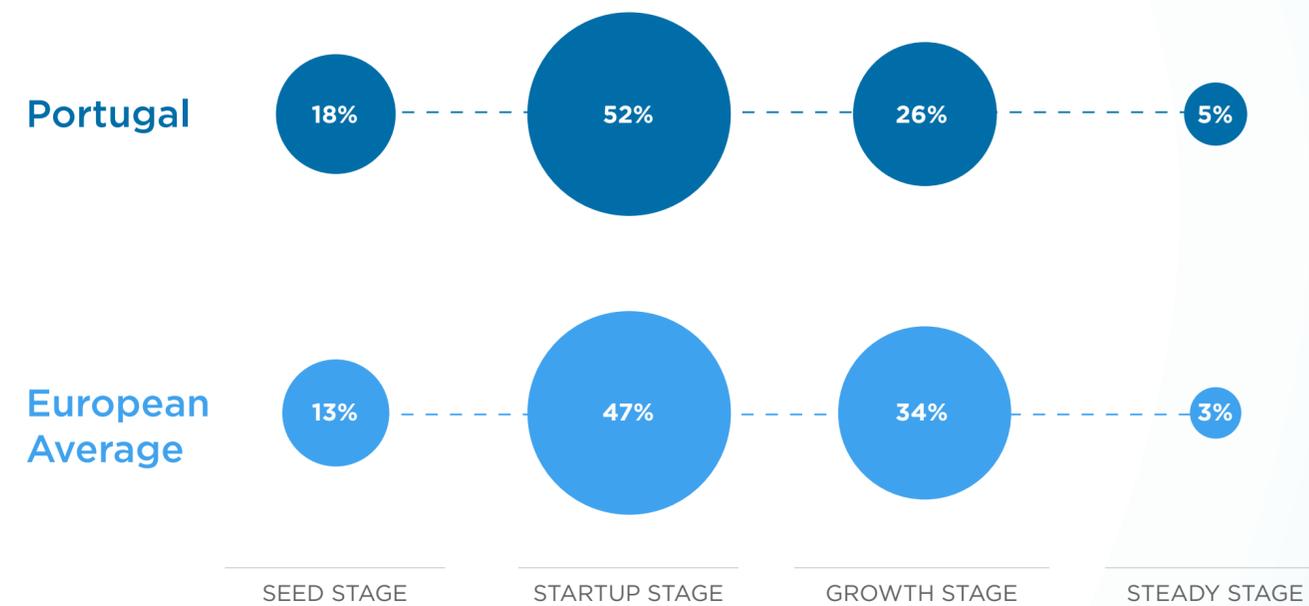
<sup>2</sup> Source: startupportugal.com

# Split by stage and comparison to Europe

A LOOK AT THE SPLIT OF PORTUGUESE STARTUPS PER STAGE SHOWS THAT THERE IS MORE EMPHASIS AT AN EARLY STAGE.

IT IS A YOUNGER ECOSYSTEM THAN THE AVERAGE EUROPEAN ONE.

DISTRIBUTION OF STARTUPS BY DEVELOPMENT STAGE

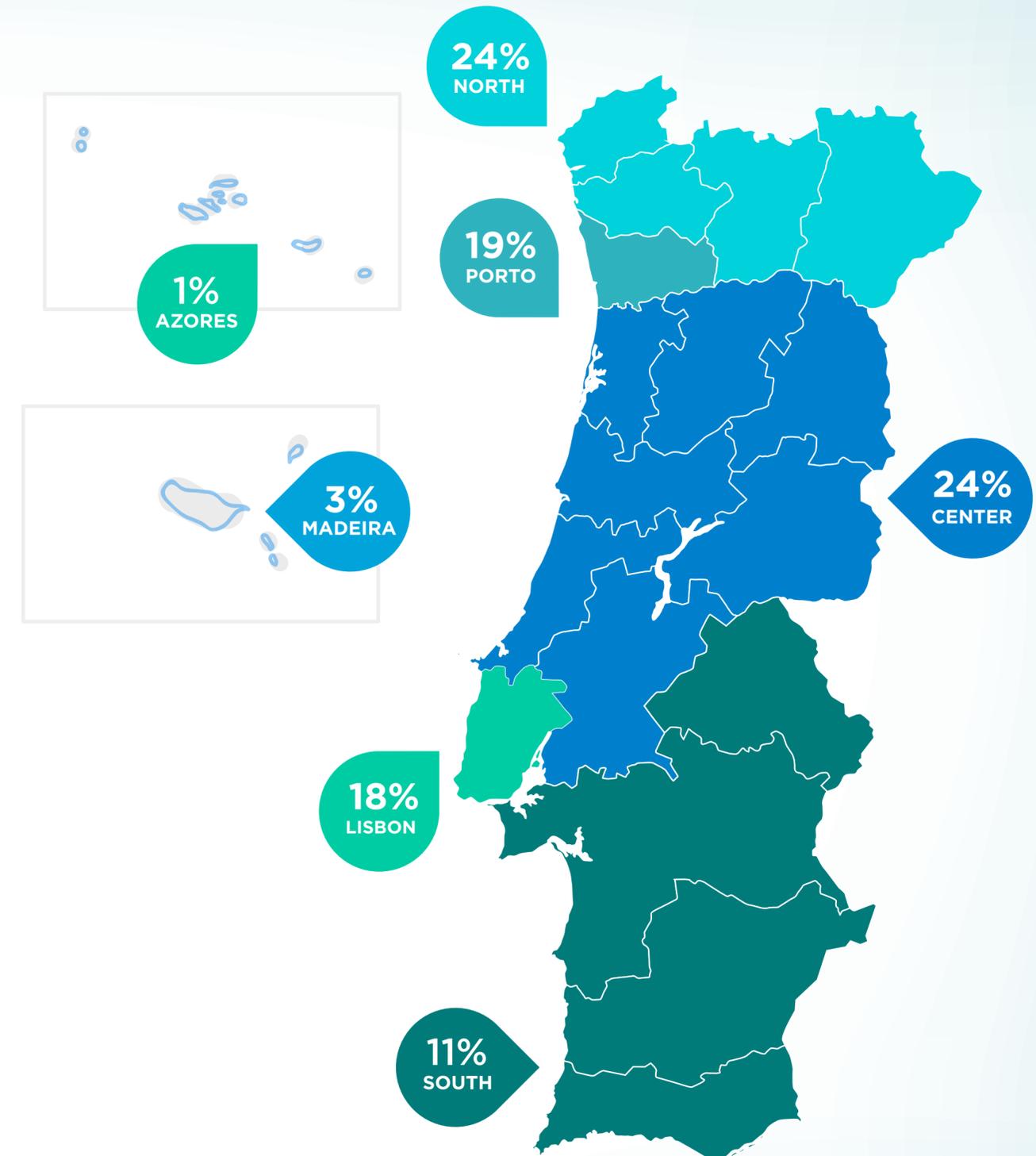


Source: Statista 2018

# Regional startup split

## A VIEW AT THE SPLIT BY REGION SHOWS:

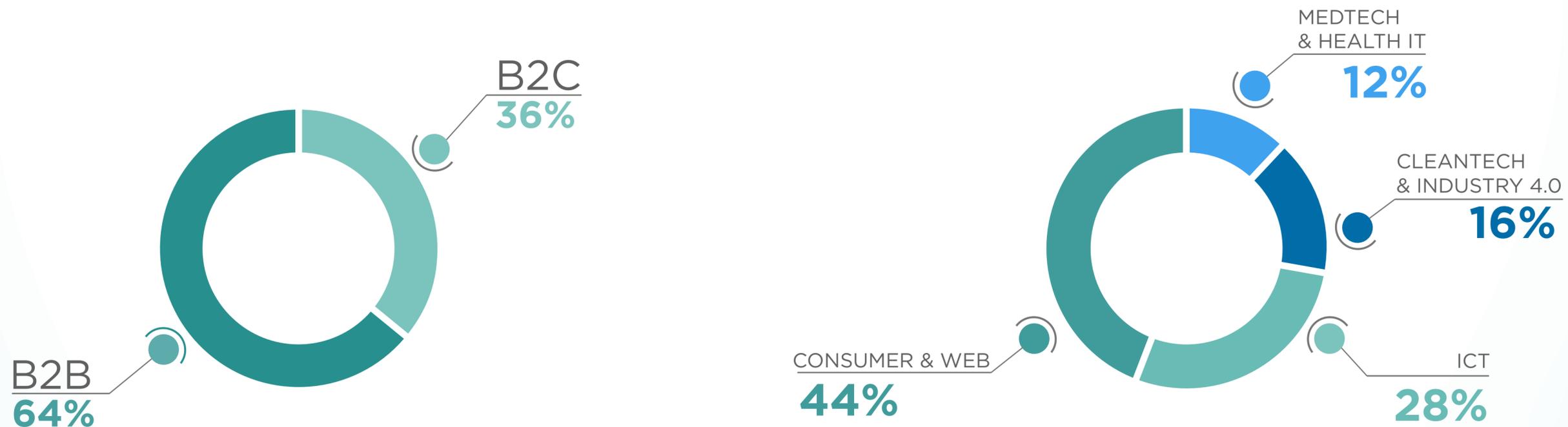
- Vibrant ecosystem in the North and Center, aggregating hubs like Porto, Braga and Aveiro. With Porto waging in 19%.
- Coimbra is also a key-hub in the Center region.
- Lisbon account for 18% of the total.
- There are a lot of development opportunities in the islands of Azores and Madeira, and their potential for sea-related activities could be easily leveraged.
- Portugal is a very interesting place to startup.



# Startup split by industry

ANOTHER INTERESTING PERSPECTIVE IS TO LOOK AT THE PICTURE FURTHER DOWN THE LINE, IN TERMS OF SCALEUPS

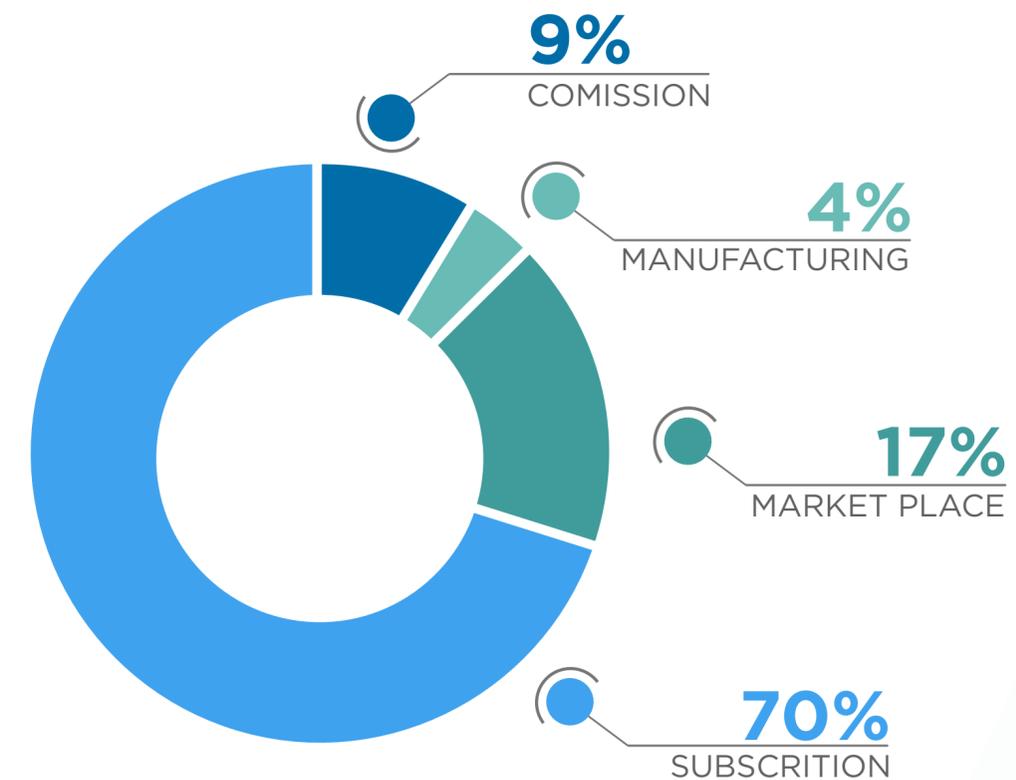
In fact, today's scaleups are yesterday's startups, and among the top 25 there is a clear bias towards B2B, though there is a stronger skew towards Consumer & Web, if compared to today's startup image.



# Scaleups business model

AN INTERESTING DATA POINT ALSO AVAILABLE FOR THE TOP 25 SCALEUPS IS THEIR BUSINESS MODELS:

- A significantly vast majority is subscription-based, following the current X as a service trends.
- 17% characterize themselves as marketplaces, offering additional challenges when bootstrapping.
- Only 4% relates to manufacturing, which stresses the digital nature of today's world.



Where are we today?



**Enablers**

# Portugal: great place to travel, live and invest

Portugal is known for its climate, beaches, gastronomy and tradition, receiving many tourists every year. In recent years, Portugal has been improving and promoting what it has to offer and is today a modern, eclectic and welcoming country, attracting not only **different types of tourists but also families and companies that establish their life and business in the territory.**



Portugal was World's Leading Destination 2017, 2018, 2019 and Europe's Leading Destination 2020  
World Travel Awards



Portugal was the 1<sup>st</sup> in quality of life for expats, 2019

Lisbon was the 3<sup>rd</sup> best city for expats, 2020

Expatriate Insider survey



Portugal ranked 3<sup>rd</sup> most peaceful country in the world, among 163 states and territories.  
Global Peace Index, 2020

Portugal considered strong innovator by the European Commission  
European Innovation Scoreboard 2020



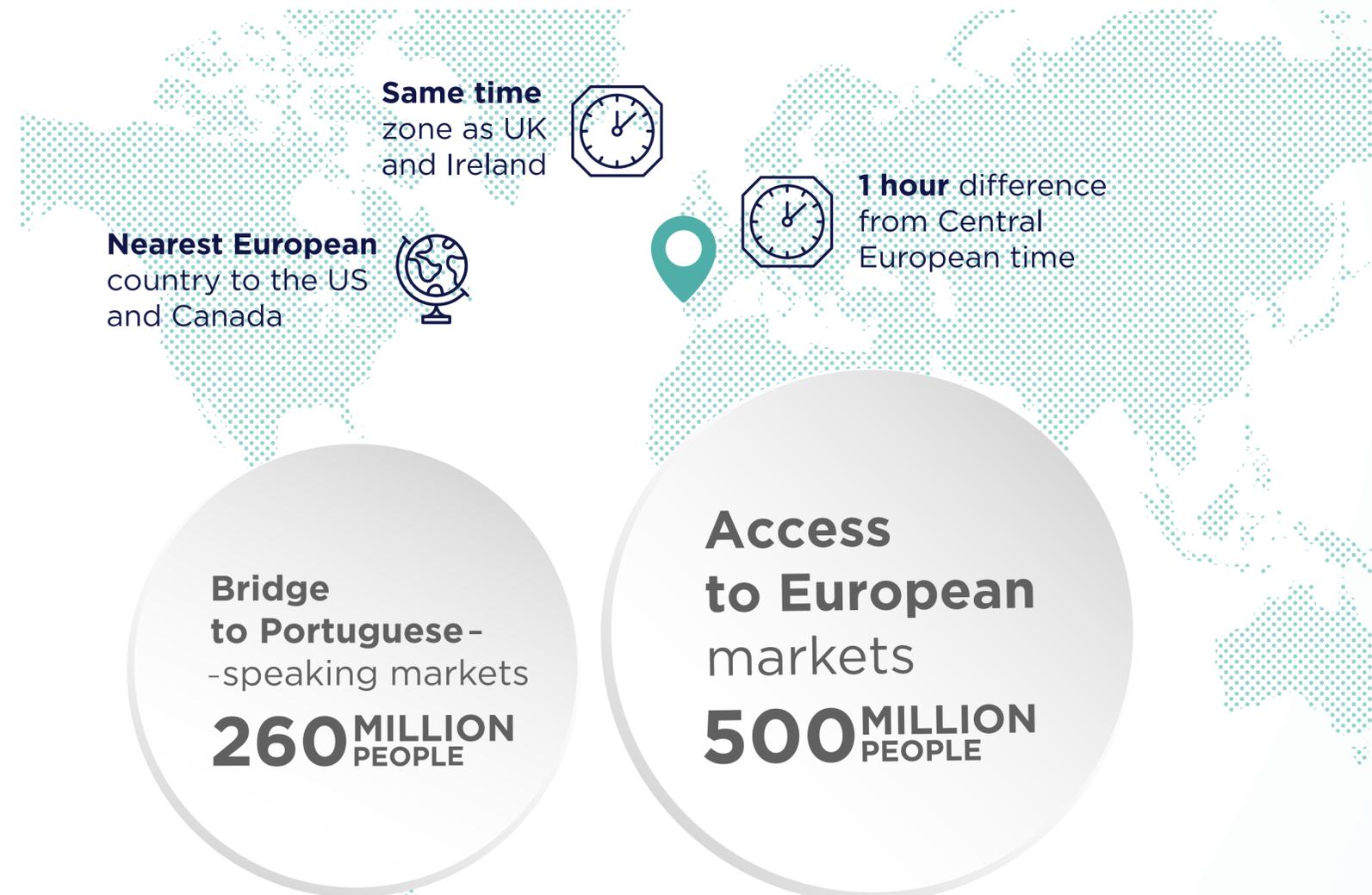
Portugal ranked #25 out of 161 in "The Best Countries for Business",  
Forbes, 2019



Portugal was the 2<sup>nd</sup> most open country for "foreign direct investment" (FDI)  
OECD FDI restrictiveness index, 2019

# Great location

**MAINLAND PORTUGAL IS LOCATED IN THE MOST SOUTH-WESTERN POINT OF CONTINENTAL EUROPE, ENSURING AN IMPORTANT GEO-STRATEGIC POSITION BETWEEN EUROPE, AMERICA AND AFRICA.**



# Good means of transport across the country and to the world



## #21

**IN THE WORLD WITH BETTER INFRASTRUCTURES**

(The Global Competitiveness Report 2019, 141 countries).



## #8

**QUALITY OF ROAD INFRASTRUCTURE**

3065 kilometers in motorway length.  
Portugal is the EU Member State with the 2nd best roads of all 28 countries according to the EU Transport Scoreboard.



## #31

**RAILROAD DENSITY**

Railway network is available through 2546 kilometers of the country. All main seaports are connected to the rail network onwards to Spain and Central Europe.



## #36

**EFFICIENCY OF SEAPORT SERVICES**

6 major international seaports.

# Portugal is above EU average in connectivity score

#12



## IN CONNECTIVITY

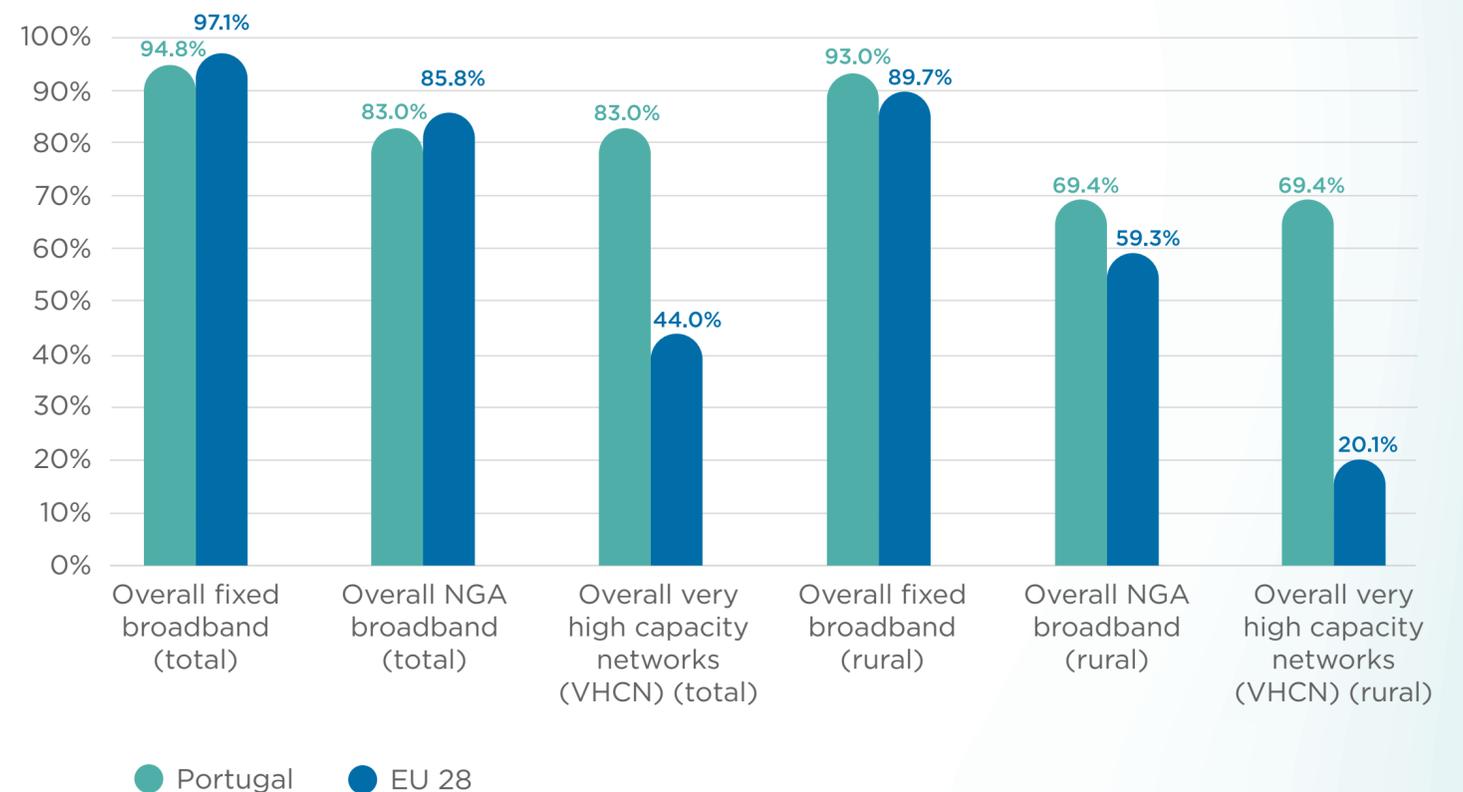
(Digital Economy and Society Index (DESI) 2020, EU)

It has very good VHCN broadband coverage and good fast broadband (NGA) coverage.

Mobile 4G coverage has reached 96%, at the same level as EU average.

As regards 5G, several 5G trials are underway in the cities Aveiro, Cascais, Évora, Porto, Matosinhos, Lisbon. The multi-band auction is in progress. The licences will be distributed during 1stQt 2021.

PORTUGAL: COVERAGE BY TECHNOLOGY COMBINATION, 2019



# Portugal is actively promoting the digitalization of businesses

PORTUGAL IS ACTIVELY IMPLEMENTING MEASURES TO PROMOTE THE DIGITALIZATION OF BUSINESSES AND PUBLIC SERVICES.

Some examples are:

- **Strategy ICT 2020**, promoting the digital transformation of public services.
- A revamped edition of the flagship programme on administrative simplification **SIMPLEX**.
- **Web portal ePortugal**, a central repository for all public services dedicated to citizens and businesses.
- **Mobile Medical Electronic Prescription**, enabling doctors to digitally prescribe medicines through a smartphone.
- **Social Security +** provides an easier and simpler way for citizens and companies to access social security services.
- **Industry 4.0**, national strategy for the digitalization of the economy.
- **ComércioDigital.pt**, promoting the presence of SMEs in e-commerce and digital services.
- **Digital innovation hubs (DIH)**, an instrument for scaling up the digitalization of companies, particularly of SMEs.
- **Artificial Intelligence Portugal 2030** which aims to put Portugal at the forefront of 'AI Education for all'.
- **Advanced Computing Portugal 2030** which aims to expand cyberinfrastructure and to improve advanced computing skills.

**#13** IN DIGITAL PUBLIC SERVICES

(Digital Economy and Society Index(DES) 2020, EU)

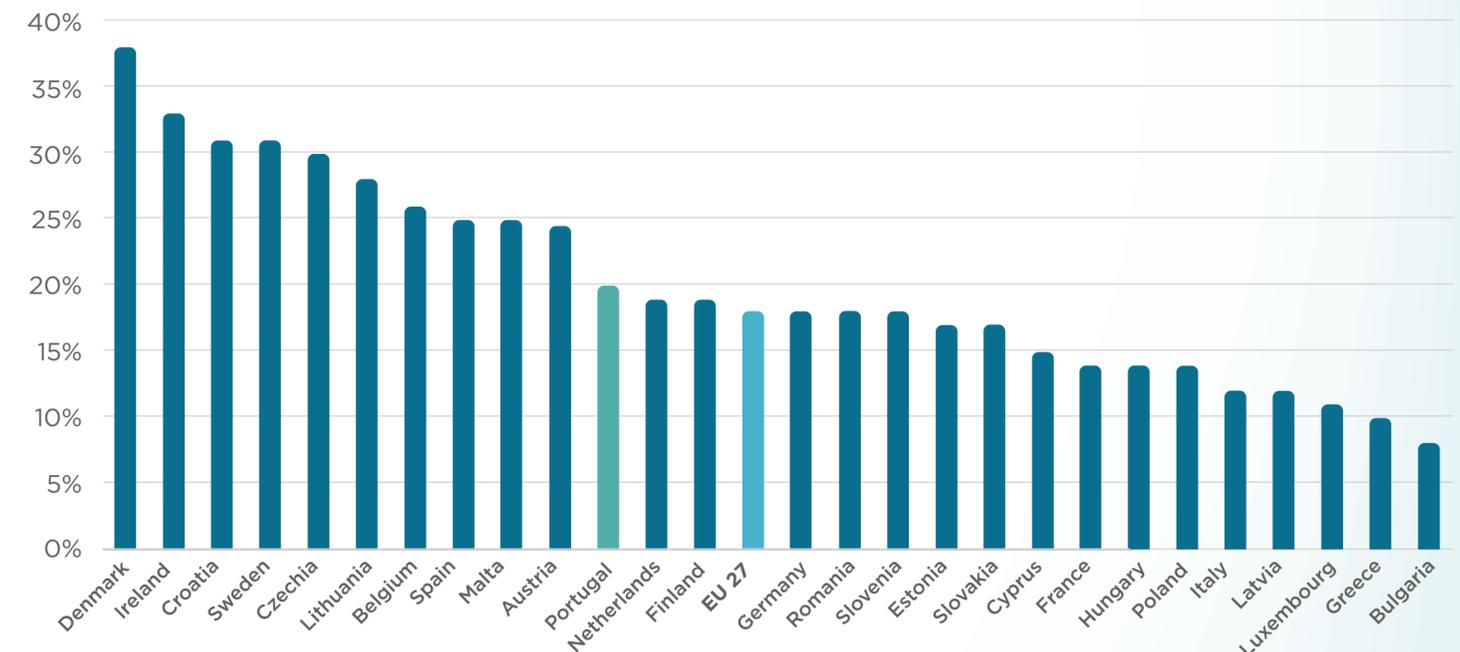
**#16** IN INTEGRATION OF DIGITAL TECNOLOGIES

(Digital Economy and Society Index(DES) 2020, EU)

**#8** IN THE EIBIS DIGITALIZATION INDEX

(European Investment Bank, EU, 2020)

% OF ENTERPRISES WITH E-COMMERCE SALES OF AT LEAST 1% TURNOVER, 2020



# Incubators/accelerators

Incubators are the institutions that have most contributed to the development and dynamism of the Portuguese business community, with an effective role in the survival rate of ideas and innovative startups.

The "National Network of incubators" was created as part of the Startup Portugal Strategy. Its role is to promote cooperation and the sharing of resources and knowledge, in order to improve products and services made available to entrepreneurs and companies.

From 2016 to 2020, the number of incubators grew by 40%.

169 incubators distributed across the country offer 2325 incubator rooms.

Nº OF INCUBATORS



Nº OF INCUBATOR ROOMS



Source: RNI, Portuguese Incubators Monitor, 2020



Beta-i is an organization created to boost entrepreneurship, and its mission is to foster a true innovation culture.



Created in 1991 through a University of Coimbra initiative, Instituto Pedro Nunes (IPN) is a private non-profit organisation which promotes innovation and the transfer of technology, establishing the connection between the scientific and technological environment and the production sector.



Startup Lisboa began its activity in February 2012. It facilitates access to investment, mentors, strategic partners and potential customers. It is also running two acceleration programs to innovate the communication and media industry and to reshape the ecosystem of restaurants.



"Fábrica de Startups" is an incubator and has several accelerator programs for startups. It is also a connection point between Portugal, Brazil, and Macao. Since 2012 more than 2500 entrepreneurs have worked with its methodologies of creation, validation and growth of ideas.



Startup Braga supports new technology-based companies in the areas of digital economy, medical technologies and nanotechnology, through pre-acceleration, acceleration and incubation programs. In partnership with Microsoft Ventures it provides business acceleration programs for startups with global ambitions.



UPTEC supports the transfer of knowledge between the university and the market, by fostering the creation of technological, scientific and creative companies and attracting innovation centers of national and international companies.



Operating since 2010, BGI has accelerated 154 new ventures, with a survival rate to date of 60.4%. It provides opportunities to deep tech startups via venture financing, connecting innovators with global investors, and acceleration programs.



Demium Startups was founded in 2013, having started operations in Portugal in 2019. It is an incubator and helps entrepreneurs to create a startup from scratch. It supports the overall cycle and the international expansion.

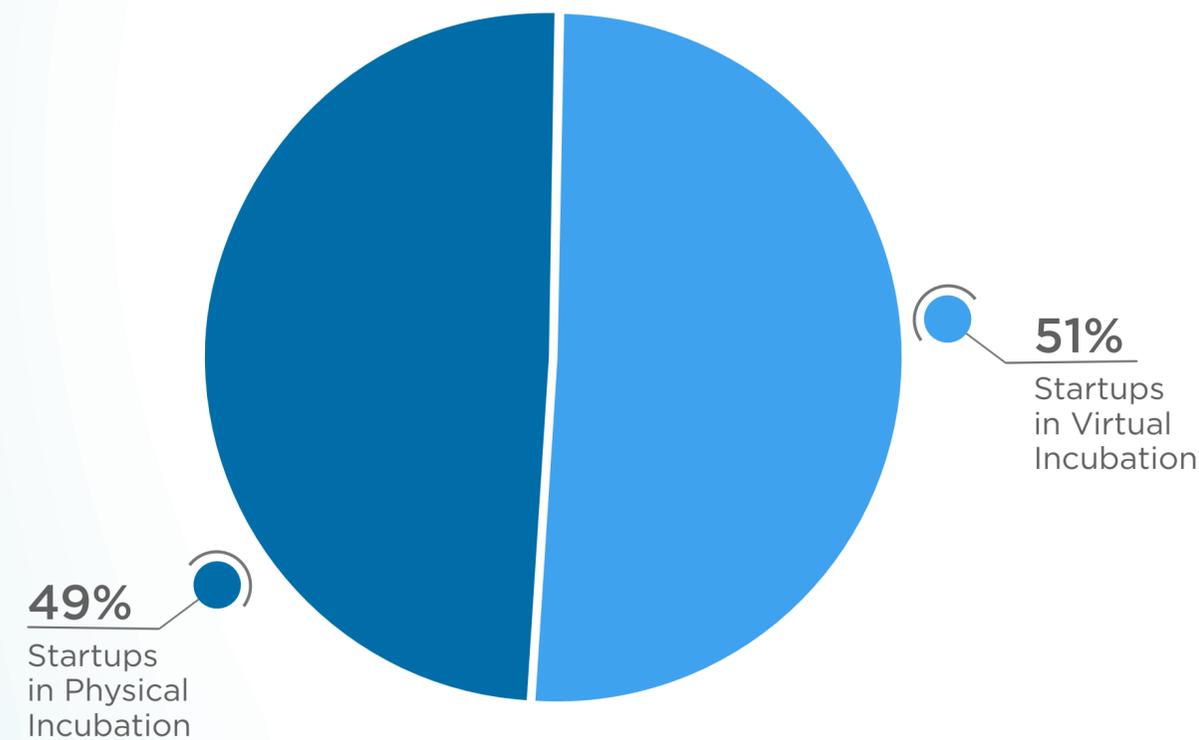


Fintech House is a hub for Fintech, Insurtech, Regtech, and Cybersecurity in Portugal. It is the physical arm of the Portugal Fintech Association. The House provides access to regulators, talent, capital, partners or potential clients.

# Incubators / accelerators offer a variety of services

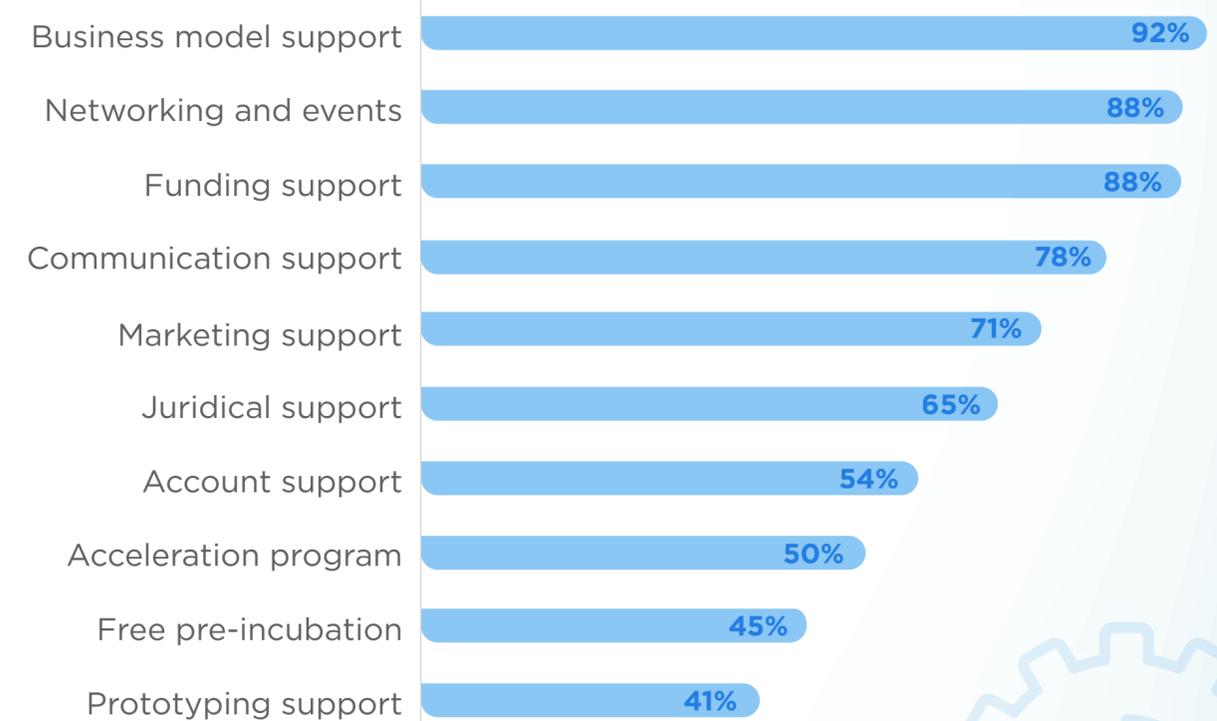
**A LARGE NUMBER OF STARTUPS DO NOT REQUIRE A PHYSICAL OFFICE AND OPT FOR A DIGITAL INCUBATION.**

DISTRIBUTION OF INCUBATED STARTUPS BY SERVICE MODEL



In addition to the typical amenities for startups, there is a wide range of services for startup and growing companies, ranging from co-working spaces to support services for product development and marketing.

% OF INCUBATORS DELIVERING THE SERVICE



**Where are we today?**



**Policy,  
Regulation  
& Incentives**

# Incentives welcome foreign investment

## GENERAL INCENTIVES FOR INVESTMENT:

### GOLDEN VISA PROGRAMME

Residency-by-investment program in a bid to push more foreign investors towards low residency regions.

### PRODUCTIVE INVESTMENT

Financial and tax incentives for new products, services or processes and innovation.

### R&D INVESTMENT

Financial incentives for investment in R&D activities.

### JOB CREATION INVESTMENTS

Financial support to internships for unemployed graduated young people and for long-time unemployed people.

### COMPETE 2020

Program also available for foreign investment. Incentives to projects based on knowledge intensive activities, transportable or internationalizable goods and services and to enhance the qualification and export orientation.

**#39**

in General  
Ranking

**#1**

Trading  
Across Borders



DOINGBUSINESS  
Measuring Business Regulations  
190 countries

**#31**

in General  
Ranking

**#24**

Institutions



Global Innovation Index  
131 countries

# Incentives and support to startups

## ECONOMIC RELIEF MEASURES TO HELP THE STARTUP ECOSYSTEM

### MEZZANINE FUNDING FOR STARTUPS (INNOV-ID)

Designed to protect startups that have benefited from investment. A loan convertible into "social capital (supplies)" after 12 months, applying a discount rate that allows startups to avoid a dilution of investors' equity.

### E-RESIDENCY 2.0

The e-residency 2.0 is a program for digital nomads and entrepreneurs without a fixed base. Allows the creation of an on-line company, while granting access to public and private services in Portugal. (Under development)

### STARTUP VISA

It aims to attract investment, talent and innovation to Portugal. Young entrepreneurs from all over the world who want to open an innovative company will have quick access to a residence visa that gives them the possibility to create or move a their startup enterprise to Portugal.

### STARTUP VOUCHER

Program for young entrepreneurs in idea stage. It aims to reduce the risks youngsters take in venturing and creating a company by granting a scholarship, incubation and mentorship.

### INCUBATION VOUCHER

This measure is intended to provide support for simplified projects of companies in the area of entrepreneurship by contracting incubation services provided by of previously certified incubators.

### OPERATION FOLLOW-ONS

To be carried out together with Portugal Ventures' Capital Partners Network, it aims at shoring up the capital of startups already backed by other investors. Financial initiative through the Financial Development Institution (IFD), Portugal Ventures and Imprensa Nacional-Casa da Moeda.

### TECH VISA

Tech Visa is a certification program addressed to companies that wish to attract highly qualified and specialized staff to Portugal, nationals from countries not included in the Schengen area. IAPMEI is responsible for the evaluation and certification of companies.

### ROAD2WEBSUMMIT

An initiative designed to support Portugal-based startups with their web summit participation. It includes access access to the event and intensive training.

### ZLT (Free zones for technology)

The ZLTs facilitates the realization of research, demonstration and testing activities, in a real environment, of innovative technologies, products, services, processes and models. (ongoing)

### MISSIONS ABROAD

An initiative to further promote Portuguese start-ups abroad. In past missions, StartupPortugal took Portuguese startups to either participate in a tech event, to meet investors and important players, to visit incubators and other important local tech hubs, or to help Portuguese companies with recruitment processes in foreign countries.

### 200M

The 200m co-investment fund, managed by PME Investimentos - a public company regulated by the Bank of Portugal - whose mission is to develop innovative funding instruments for Portuguese companies.

### SEMENTE

A program developed to encourage small private investors to invest on innovative startups. It encourages innovation and the creation and growth of entrepreneurial projects, yielding tax breaks for investments on certified startups.



# No restrictions to foreign capital entry

## FOREIGN INVESTMENT RULES FOLLOW PRINCIPLES OF FREE ESTABLISHMENT AND NON-DISCRIMINATION.

In Portugal there are no **restrictions to foreign capital entry**, for regulatory framework says no one can be discriminated on the grounds of nationality. In that way, the rules applicable to foreign investment are similar to those applicable to domestic investment, and no special registration or notification is required of any authority in this case. All the steps that are needed in order to invest in Portugal are now much simpler.

### BUSINESS FACILITATION

**Simplex**: measures taken to reduce bureaucracy  
**Empresa na Hora**: (“Business in an Hour”) program that facilitates company incorporation by citizens and non-citizens in less than 60 minutes. In 2007, the Government established **AICEP**, an agency to promote foreign investment and trade that also manages industrial parks.

### TRANSPARENCY OF THE REGULATORY SYSTEM

Legal, regulatory, and accounting systems are consistent with international norms. Rule-making and regulatory authorities exist across sectors including energy, telecommunications, security markets, finance and health.

### COMPETITION AND ANTI-TRUST LAWS

Portuguese law specifically prohibits collusion between companies to fix prices, limit supplies, share markets or sources of supply, discriminate in transactions, or force unrelated obligations on other parties.

### INTELLECTUAL PROPERTY RIGHTS

Intellectual property rights (IPR) infringement and theft are not common in Portugal. It is fairly easy for investors to register copyrights, industrial property, patents, and designs with **Portugal’s Institute of Industrial Property** (INPI) and the **Inspectorate-General of Cultural Activities** (IGAC). Portugal is one of the countries with lower patent costs (online and offline).

# Worker's earnings and taxes

In recent years labor legislation has changed and was adapted in order to simplify and give some flexibility to the labor market. Some aspects of the contracts are now different, helping companies to reduce costs with their workers:

The duration of the contracts.

Incentives and benefits to promote contracts and the employment of specific worker groups: creation of new job vacancies; hiring long-term unemployed, young people looking for the first job; recruitment of disabled workers.

Tax benefits for job creation, reducing the amount of discounts the employers and employees have to do.

Monthly national minimum salary (2020): 665€

Monthly base salary: The gross amount, paid regularly and corresponding to the normal working period.

Monthly earnings: The gross amount paid monthly, on a regular basis, for the hours of work performed, as well as for the hours paid but not actually worked. This includes, in addition to the basic pay, all premiums and regular grants (seniority bonuses, allowances for function, food, housing, transportation, seniority, productivity, attendance, shift, timetable exemption, arduous or hazardous work, etc.), as well as payment for overtime.

APPLICABLE RATES	VALUE/ AMOUNT	TYPE
<b>Base Salary x14</b> (Holidays and Christmas Bonuses)		
<b>Meal Allowance x11</b>	<b>4,77€</b> /day of work	Reference amount for the public sector
<b>Work Insurance x14</b>	<b>1%</b> of base salary (indicative amount)	Mandatory
<b>Social Security - Employer Contribution</b>	<b>23,75%</b> of the base salary	Mandatory
<b>Working Compensation Fund x12</b>	<b>1%</b> of the base salary	Mandatory
<b>Social Security - Employee Contribution</b>	<b>11%</b> of the base salary	Mandatory

IRS Tax (Personnel Income Tax): tributes all annual value of the citizens' income. The rates vary between 14.5% and 48%.

Where are we today?



**Talent**

# Portugal in global rankings

PORTUGUESE TALENT IS RECOGNIZED FOR ITS QUALIFICATIONS,  
FLEXIBILITY AND COMMITMENT.

## WORLD TALENT RANKING, 2020

**#26**  
out of 63 countries

**#12**  
Management  
Education

**#7**  
Language  
Skills

**#14**  
University  
Education

Source: IMD World  
Competitiveness Center

## GLOBAL TALENT COMPETITIVENESS INDEX

**#28**  
out of 132 countries

Source: INSEAD, the Adecco Group,  
and Google Inc.

## ENGLISH PROFICIENCY INDEX, 2020

**#7**  
out of 88 countries  
- High Proficiency

Source: Education First

## GLOBAL INNOVATION INDEX, 2020

**#32**  
out of 131 countries

**#29**  
Knowledge Creation

**#14**  
Knowledge Impact

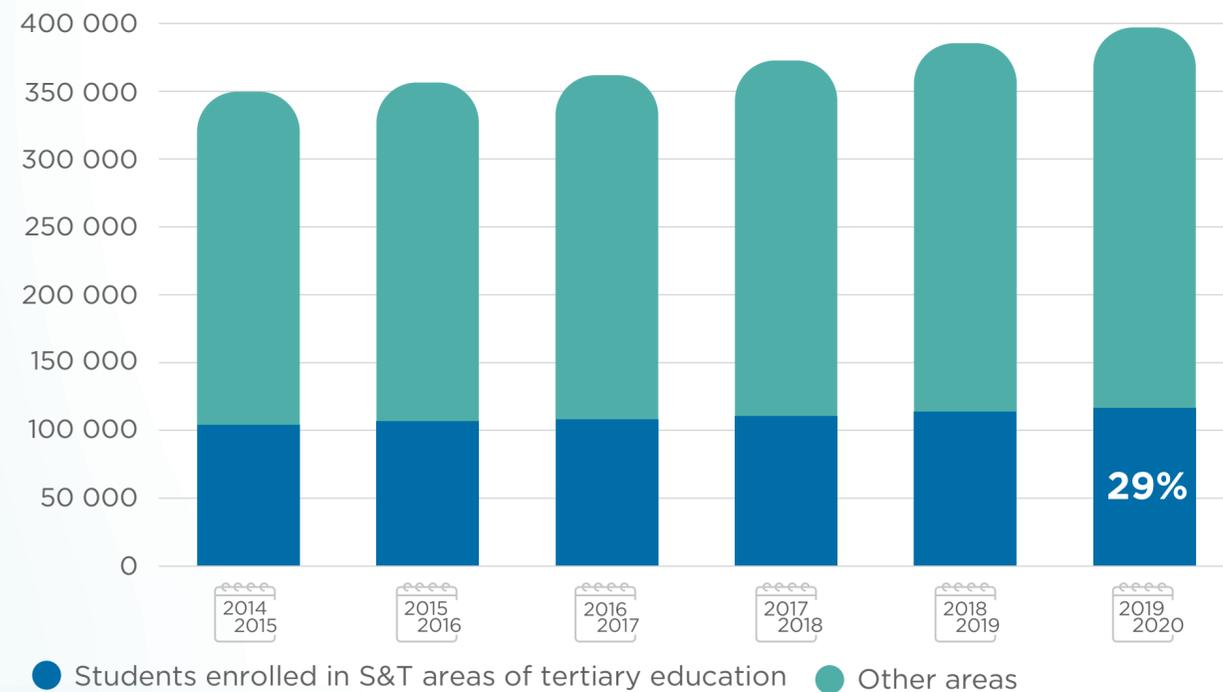
Source: Cornell University, INSEAD, and the World  
Intellectual Property Organization

# Higher education has been growing

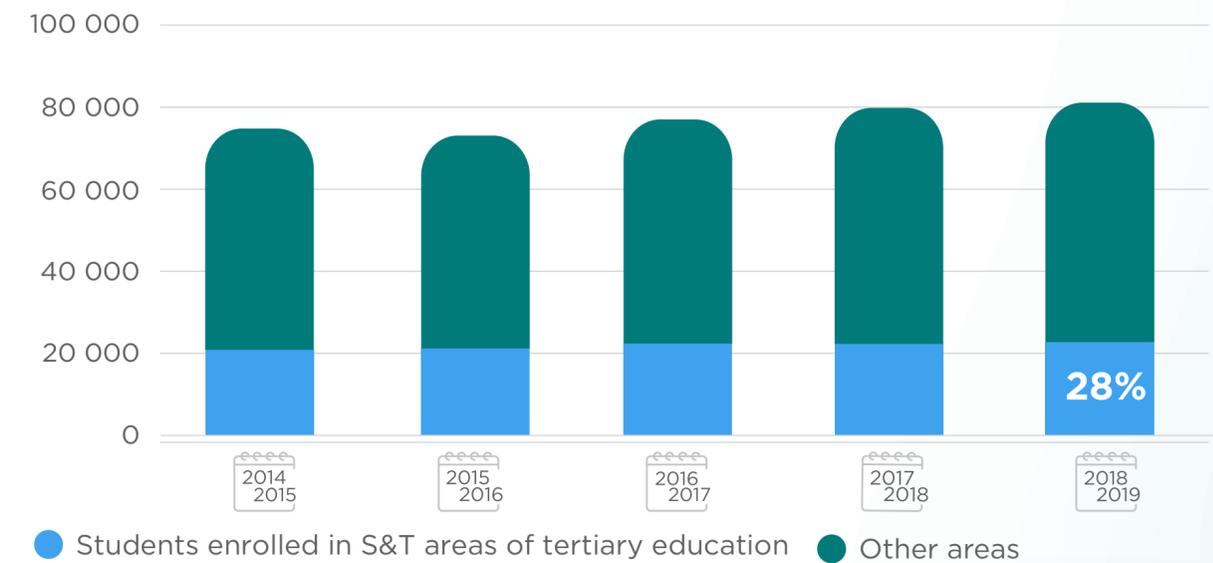
The Portuguese school system has witnessed historic improvements in access, attainment and performance over the past 20 years. In 2020, 28% of the Portuguese population between 25 to 64 years old had higher education. This rate increased considerably to 42%, in a 25 to 34 years old population.

**28% of students graduated in the areas of Sciences, ICT and Engineering.**

NUMBER OF STUDENTS IN TERTIARY EDUCATION



NUMBER OF GRADUATES IN TERTIARY EDUCATION



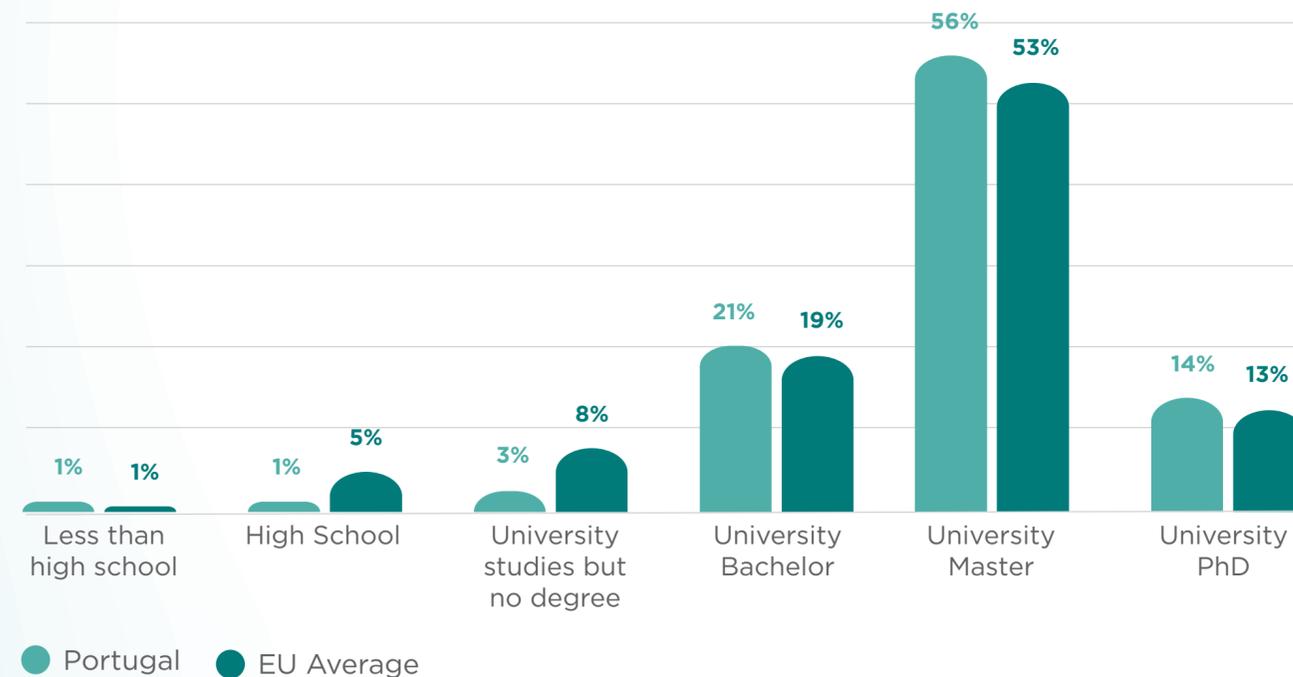
Source: www.ine.pt; data updated on September 2020  
S&T refers to: "Natural sciences, mathematics and statistics", "Information and Communication Technologies (ICTs)" and "Engineering, manufacturing and construction"

Source: www.ine.pt; data updated on July 2020  
S&T refers to: "Natural sciences, mathematics and statistics", "Information and Communication Technologies (ICTs)" and "Engineering, manufacturing and construction"

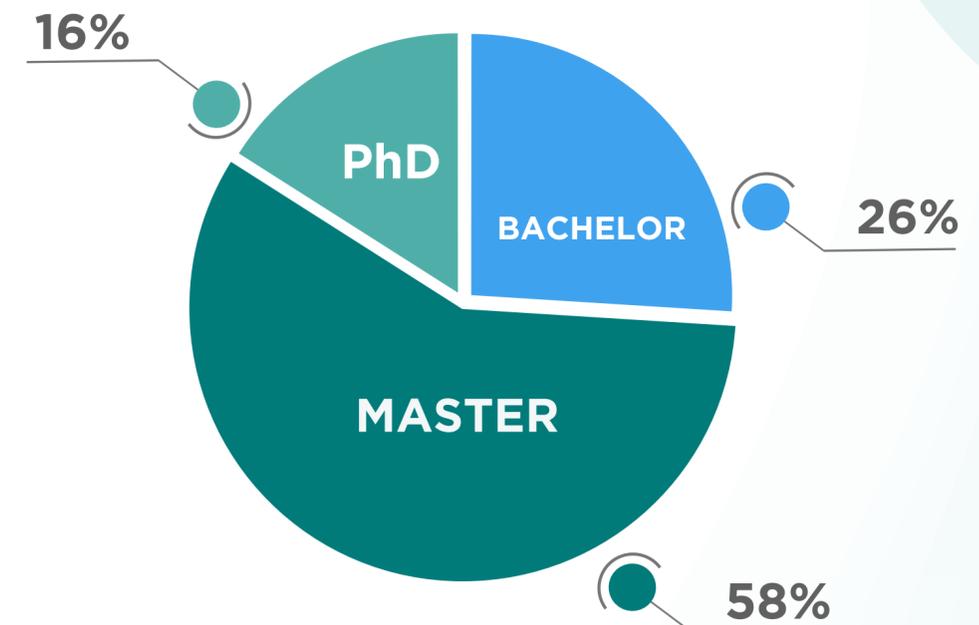
# The importance of higher education in startups/scaleups

THE PEOPLE BEHIND PORTUGUESE STARTUPS AND TOP SCALEUPS ARE HIGHLY QUALIFIED WITH THE MAJORITY OF THEM HOLDING AT LEAST A MASTER'S DEGREE.

LEVEL OF EDUCATION OF STARTUPS' FOUNDERS



TOP 25 SCALEUPS FOUNDERS DISTRIBUTION BY LEVEL OF EDUCATION



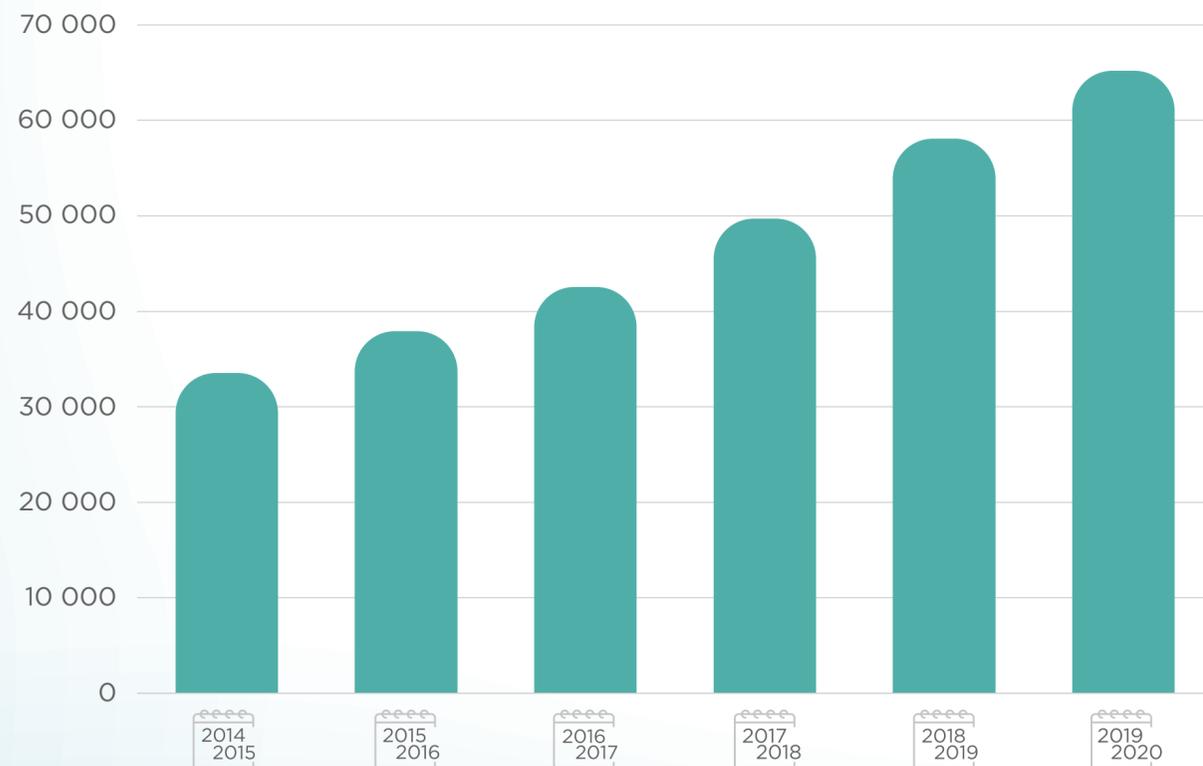
# Foreign students and graduates

## PORTUGAL EMBRACES DIVERSITY AND INTERNATIONAL ENVIRONMENTS

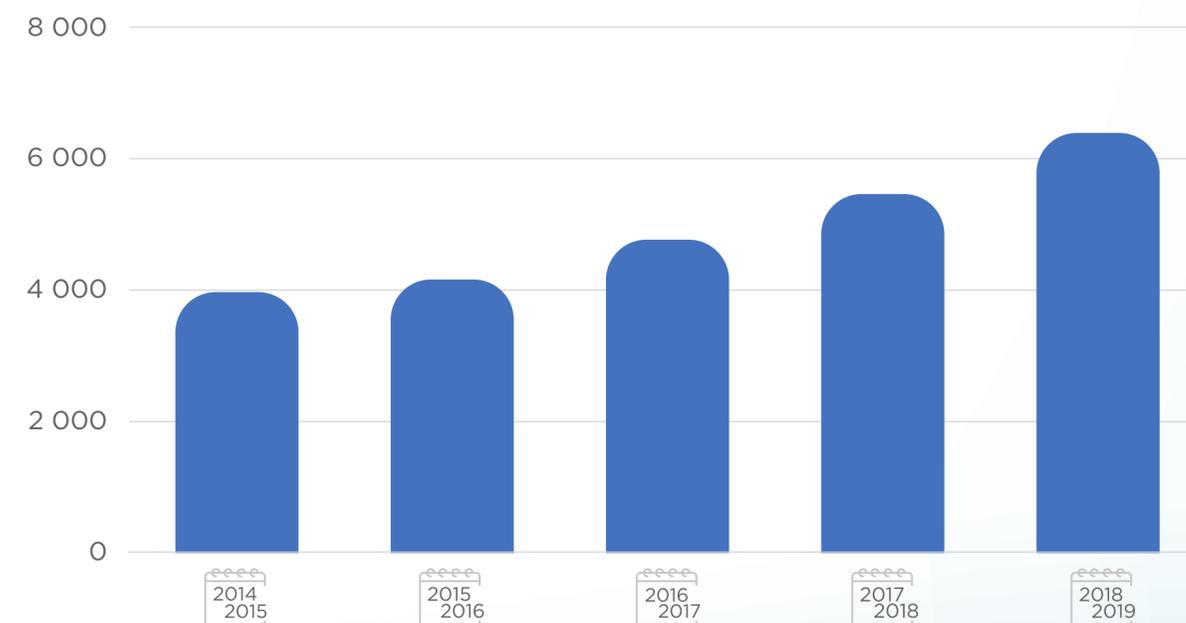
Over the last five years, the number of foreign students choosing Portugal as their destination has significantly risen. The majority come from Brazil, but European countries are well represented, like Germany and Italy. Also, people from African countries like Cape Verdeans and Angolans are choosing Portugal to get a diploma. This has been

shaping the higher education and science landscape into an open, multicultural and international environment over the last years. **The number of foreign graduates in 2019 increased 17% over the previous year. The number of enrolled students continued to grow in 2020.**

NUMBER OF FOREIGN STUDENTS ENROLLED IN TERTIARY EDUCATION



NUMBER OF FOREIGN GRADUATES



# ICT skills are being built, in tertiary education and other programs

## SOME INNOVATIVE PROGRAMS HAVE EMERGED TO PREPARE WORKERS FOR A ROLE IN ICT



### UPSKILL PROJECT - DIGITAL SKILLS & JOBS

Upskill project, launched in 2020, is the outcome of a joint initiative between an industry association (APDC), the Public Employment Office (IEFP) and partner universities. The 9-month courses aim to address ICT skills gaps identified by IT companies in Portugal and will take place at different higher education institutions across the country. Java, .NET, Python, Cloud, Salesforce and Outsystems are some of the courses covered under this Programme, corresponding to the skills areas where demand is strongest.



### 42 LISBOA - PROGRAMMING SCHOOL

Founded in Paris in 2013, 42 Lisboa is a programming school operating in more than 20 countries, being recognized as one of the best programming schools in the world. A 42 school was opened in Lisbon in 2020. 42 is not a traditional school. It is free of charge, and it doesn't require any academic degree or coding experience. The school has a practical approach, based on peer-to-peer collaboration.



### ACADEMIA DE CÓDIGO

#### ACADEMIA DE CÓDIGO

Founded in Lisbon in 2015, this Portuguese-born social impact startup is focused on reprogramming lives through the empowering teaching of code. Strongly committed to snatching talented minds out of unemployment && || dead-end jobs, they currently host a regular 14-week intensive && immersive full-time full-stack programming bootcamps in 4 different campus within the Portuguese territory (Lisbon, Oporto, Fundão && Terceira Island).

## A BUNCH OF GOVERNMENTAL MEASURES ARE IN PLACE AIMING THE DEVELOPMENT OF A DIGITAL SOCIETY



Portugal adopted the “**Action Plan for Digital Transition**” with the purpose of accelerating the country's digitalization. One of the pillars encompasses a measure for “Capacity building and digital inclusion” that specifically addresses: 1) Digital education; 2) Professional training and reskilling and 3) Digital inclusion and literacy.



The Portuguese government established the “**National Digital Competences Initiative e.2030**”, an integrated public policy to enhance and foster digital competences. One of its action-lines focuses on promoting specialization in digital technologies and applications to improve employability and create higher added value in the economy.

# Cost of talent

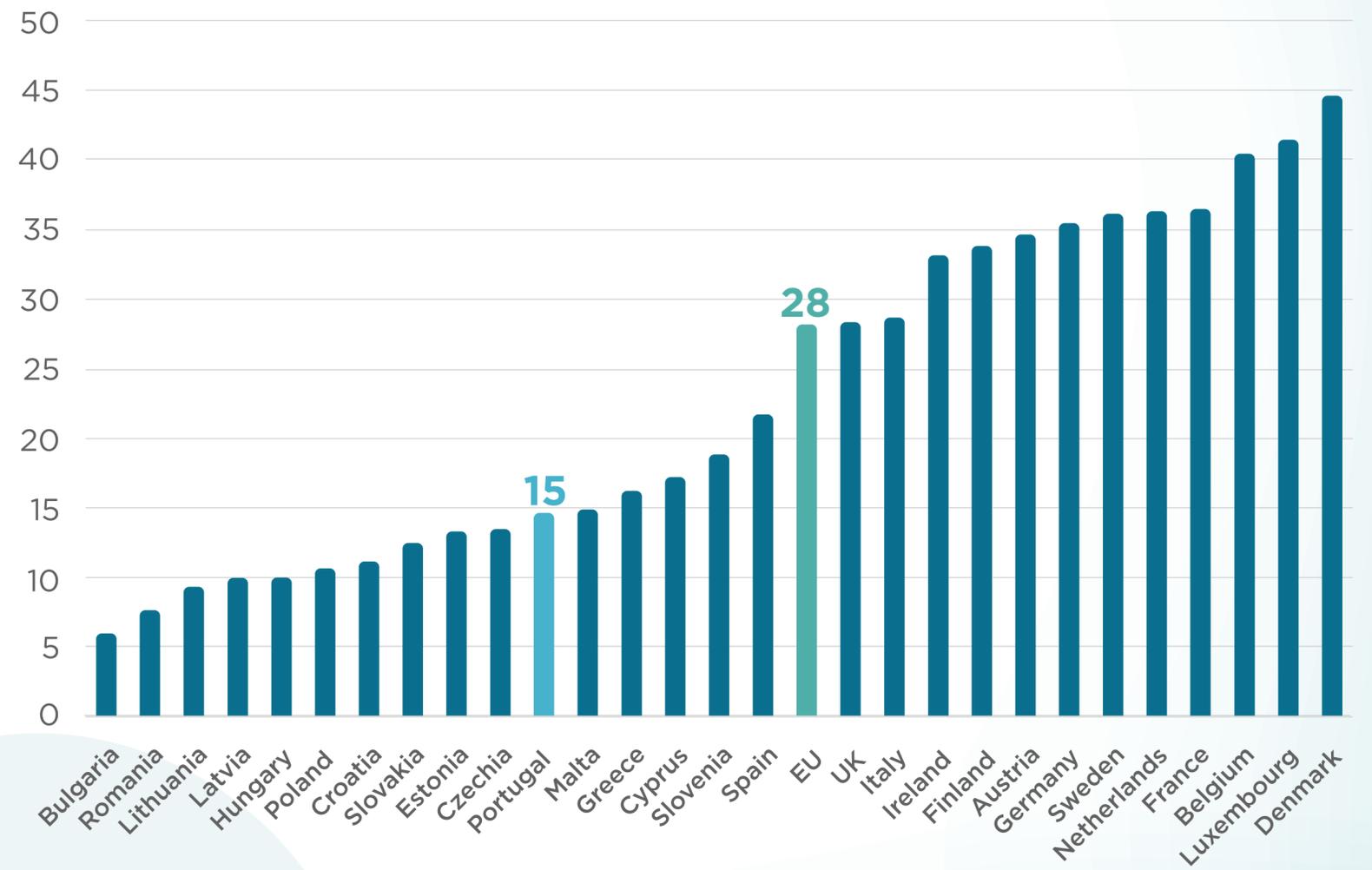
## COST OF TALENT IN PORTUGAL BELOW EU AVERAGE

In 2019, average hourly labor costs were estimated at EUR 28.2. However, this average masks sizeable gaps between EU member-states, with hourly labour costs ranging between EUR 6.0 and EUR 44.7.

**Portuguese labor cost is around 50% of the average cost.**

Between 2018 and 2019, hourly labor costs in the whole economy expressed in euro rose by 2.9 % in the EU and by 2.5% in the euro area.

LABOR COSTS PER HOUR, 2019



Source: Eurostat

Where are we today?



**Knowledge**

# Universities

## PORTUGAL HAS A WIDE RANGE OF EDUCATIONAL INSTITUTIONS AND COURSES IN THE AREAS OF SCIENCES AND TECHNOLOGY

Tertiary educational institutions are divided into universities and polytechnics. The main difference between the two is that the universities have a greater focus on academic research, while the polytechnics are more focused on preparing students for a specific career path.

In 2020 there were 123 universities and 161 polytechnics in Portugal.<sup>1</sup>

There are around **771 higher education courses in 135 schools, in the areas of Sciences, Mathematics and Information Technology**. 91 courses in 45 schools in the areas of Engineering of Information Technology.<sup>2</sup>

Business Schools are internationally recognized, with **two schools ranking as the top 25** best full-time MBAs in Europe.<sup>3</sup>

### TIMES HIGHER EDUCATION WORLD UNIVERSITY RANKINGS 2021 (1500 UNIVERSITIES)

#### Nº OF STUDENTS

 UNIVERSIDADE CATOLICA PORTUGUESA	#351-400	11 187
 NOVA UNIVERSIDADE NOVA DE LISBOA	#351-400	19 976
 U.PORTO UNIVERSIDADE DO PORTO	#401-500	32 586
 U LISBOA UNIVERSIDADE DE LISBOA	#501-600	49 019
 universidade de aveiro	#601-800	9 931
 UBI UNIVERSIDADE BEIRA INTERIOR	#601-800	7 180
 12 90 UNIVERSIDADE D COIMBRA	#601-800	21 332
 iscte INSTITUTO UNIVERSITARIO DE LISBOA	#601-800	8 868

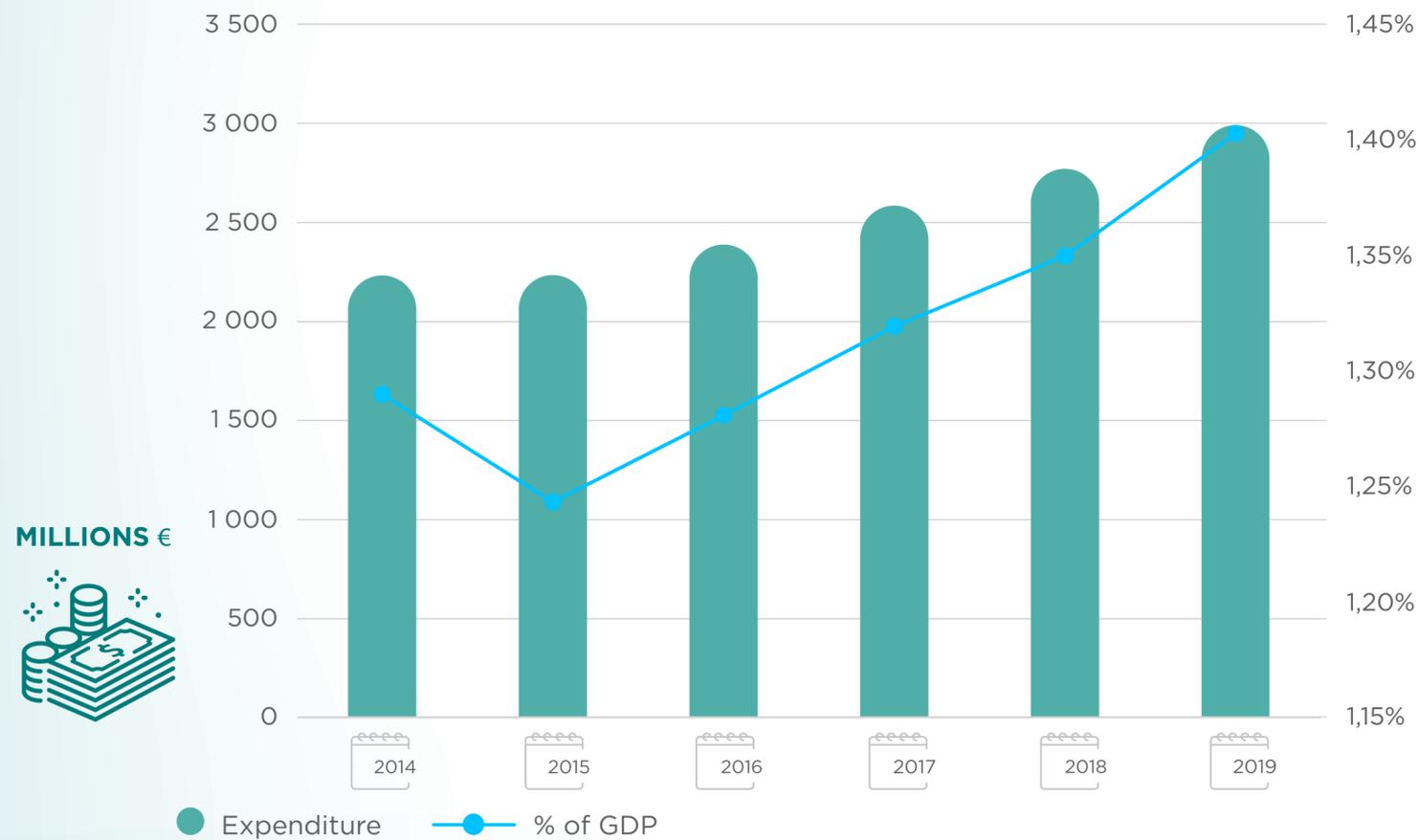
1, 2: Sources: DGEEC, 2020 and DGES  
3: Source: The Financial Times

Some of the Portuguese Universities included in "The World University Ranking"

# Research & development

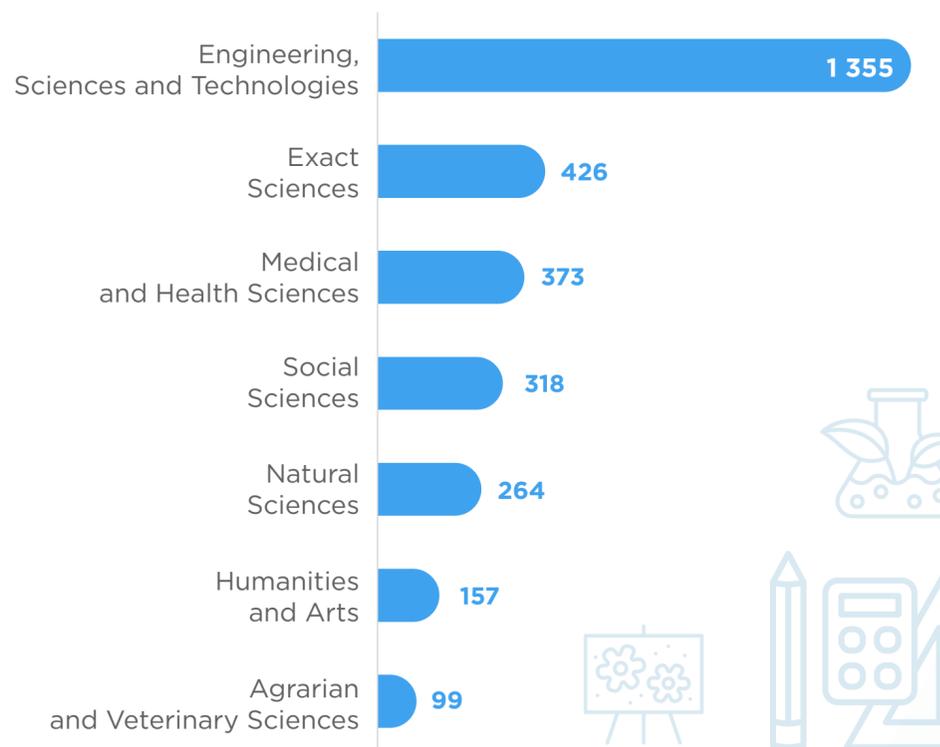
## HIGH GROWTH OF EXPENDITURES ON R&D. ENGINEERING SCIENCES AND TECHNOLOGIES TAKE THE BIGGEST SLICE

EXPENDITURE ON RESEARCH & DEVELOPMENT



Source: DGEEC, 2021

EXPENDITURE ON RESEARCH & DEVELOPMENT BY FIELD OF RESEARCH, 2019, MILLIONS €



Sources: DGEEC, 2020

# Entrepreneurship and Academia

Apart from enabling people with the required specific and technical skillset, Academia also plays an important role in teaching entrepreneurship and innovation as a domain in itself.

The formal academic offer shows:

- 59 courses, in between PhDs, Masters', or undergraduate programs, dedicated to Entrepreneurship and/or Innovation
- Throughout 32 institutions (universities, polytechnics, public, and private)
- With a geographically evenly spread distribution in the country

Also worth mentioning the 8 programs dedicated to Social, Impact, and/or Sustainability.

Equally important are the connections to the rest of the value chain, actually bridging the gap between students and other ecosystem stakeholders.

Most universities and polytechnics, if not all, have specific offices or bureaus to serve the purpose, organizing contests, hackathons, events or other specific activities to generate interest and rally students.



As an example, Universidade Católica's Center for Technological Innovation & Entrepreneurship serves as a link between students (and academia) and the ecosystem, with a rich agenda, such as:

- The Forward program, a pre-acceleration program to support teams to go through the ideation phase.
- Women Entrepreneurship Award, recognizing their work and incentivize other women to launch their own business.



Some corporates also play relevant roles. As an example, Santander supports Portuguese Academia (over 50 entities) and over 4,000 students through a specific 5,7m€ program in grants, internships and prizes, covering: teaching entrepreneurship skills, supporting new projects and employability support.

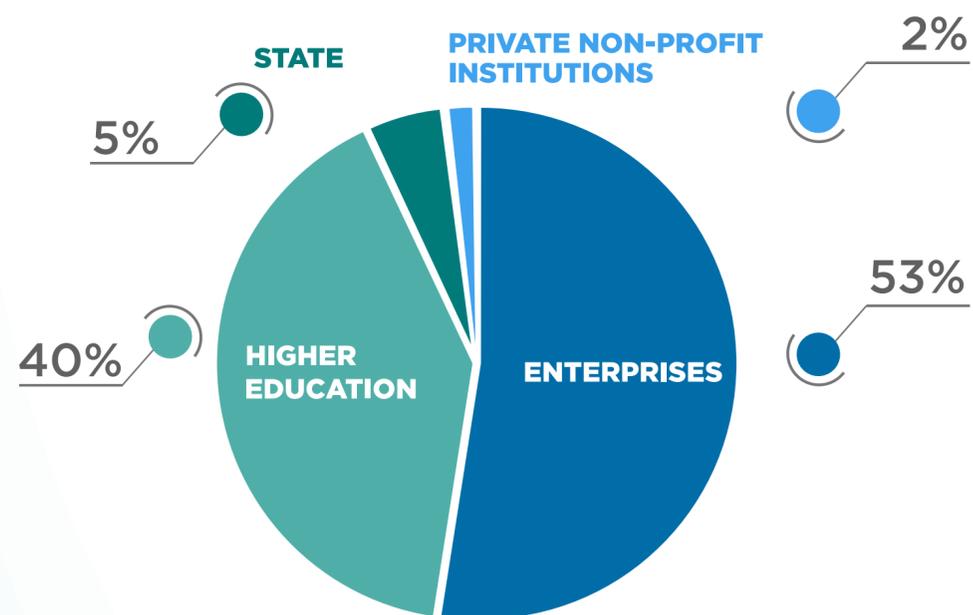
The bank has a specific policy of promoting participation in international competitions (Santander X Tomorrow Challenge, which allocates 1m€ to 20 projects) and Academies (European Innovation Academy, a 3 week immersion program), startup development training (like Explorer Program or Santander Poliemprende), Innovation Challenges, and Research prizes.

There is also a relevant social impact entrepreneurship angle, with several specific training courses and contests (Uni.Covid-19 has awarded a total of 30k€ to 14 new projects).

# Research & development

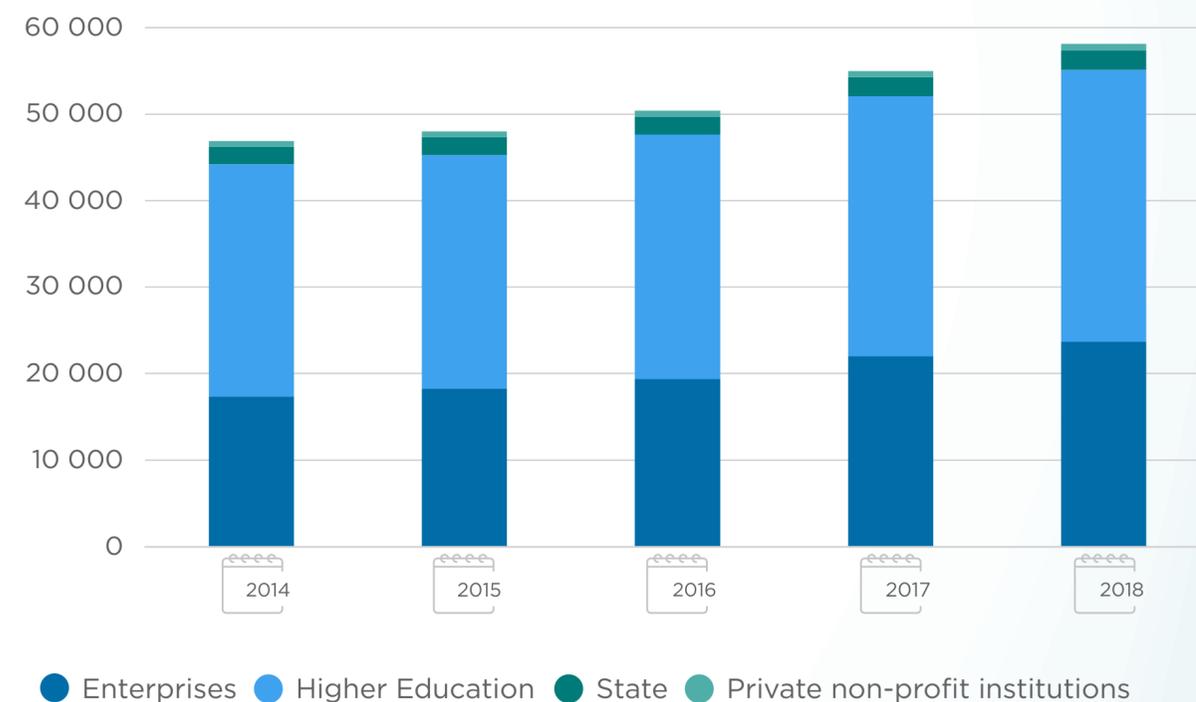
## ENTERPRISES PLAY A BIG ROLE IN KNOWLEDGE DEVELOPMENT

EXPENDITURE ON RESEARCH & DEVELOPMENT BY SECTOR OF PERFORMANCE



Sources: DGEEC, 2021

PERSONS EMPLOYED AT FULL-TIME EQUIVALENT (FTE) IN R&D



Sources: DGEEC, 2021

### TOP ENTERPRISES WITH HIGHER SPENDING ON R&D, 2019



Where are we today?

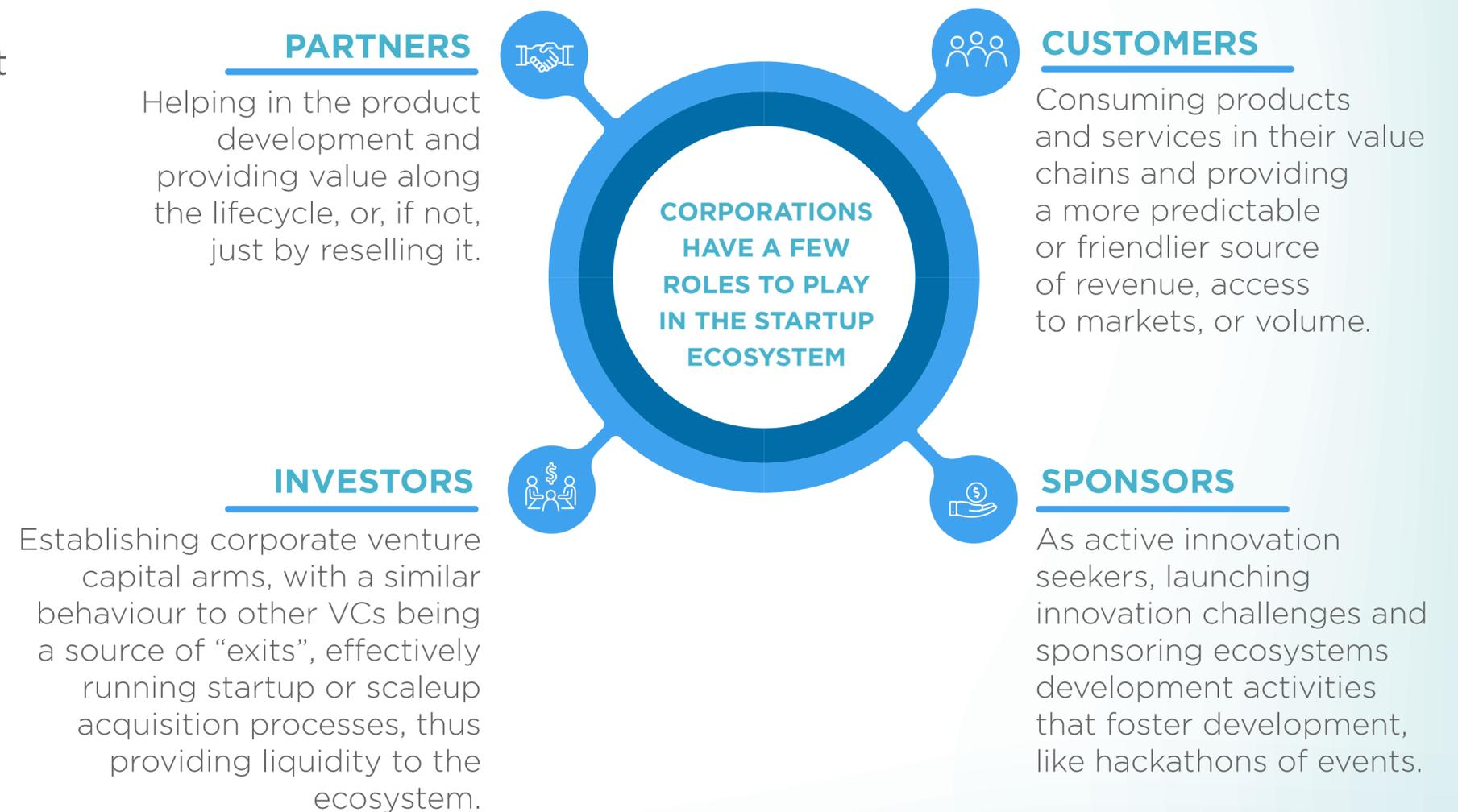


**Corporations**

# Corporations are an interested party in the ecosystem

## CORPORATIONS OFTEN LOOK AT YOUNG, AGILE AND INNOVATIVE STARTUPS AS:

- a way of experimenting and innovating outside their own boundaries and constraints
- a source of, and funnel for, products that can be incorporated in their offer and add significant value to their customer value propositions
- a way of differentiating themselves in their native markets
- a source of talent and human capital.



## Some local initiatives supporting entrepreneurship



*CTT, within the scope of its innovation policy and support of the national ecosystem, has launched a startup technological challenge in order to accelerate its own digital transformation in mail handling.*

*CTT has created an investment fund to support Small and Medium Businesses and Startup development, reinforcing its connection to the innovation ecosystem.*

*The fund will invest 4m€ in startups (seed, series A and growth), in sectors aligned with CTT's priorities, namely e-commerce, operations & logistics, communication, fintech, retail and advertising.*



*EDP invests highest value ever in startups in the areas of digital innovation, electric mobility and smart grids and announces first exit.*

*The priority areas for investment are aligned with EDP group's business and are divided between clean energies, energy storage solutions, smart grids, digital innovation and solutions related to customers*

*Corporate VCs can support startups very effectively, being their first customer, being their first reference that can then be used to acquire new customers and strategic focus in accelerating startup development.*



*Techstars, the worldwide network that helps entrepreneurs succeed, and Semapa Next, the venture capital business unit of the Semapa Group, are partnering to bring a new mentorship-driven accelerator program to Lisbon, Portugal.*

*The program will focus on companies that are solving problems in manufacturing, transportation, logistics, sustainability, and travel and leisure. The companies that have been selected to join us for this year's program in Lisbon are coming from the U.S., U.K., Australia, Germany, France, Slovenia, Singapore, and Portugal.*



*Keeping life  
in mind.*

*Established health companies are looking for startups with ideas, who want to test and develop a new technology based product.*

*The group bets on Research & Development and Innovation to produce and develop the only 2 Portuguese medicines, since 1924.*

# Large portuguese companies investing in startups



Galp invites startups and technology companies to present solutions and enable and enhance the decentralized production of energy, with particular focus on self-consumption.

Galp will create a new innovation facility in 2020. UP – Upcoming Energies is the name of the project which will be launched in January, based in Lisbon, and very much focused in searching for solutions for the axes of energy transition, mobility, digital and circular economy.



Sonae MC seeks startups with technology for retail through BrightPixel and Sonae MC, Maia's group integrates Reach consortium with a total budget of 3,5m€.

Once again, Sonae was distinguished by the European Commission as one of the best European companies working with startups. The multinational made the exclusive list of companies classified as "Open Innovation Challengers", by the Startup Europe Partnership on behalf of the European Commission



NOS launched a 10m€ investment fund to stimulate research and development in the use of 5G by the community of entrepreneurs in Portugal.

The 5G Accelerator - Collaborative innovation programme is an initiative by NOS and AWS (Amazon Web Services), in partnership with Startup Lisboa, to accelerate 5G transformation and innovation in Portugal. To this end, it will select the most daring startups committed to placing new solutions based on 5G on the market or boosting their current business models through the application of this technology.

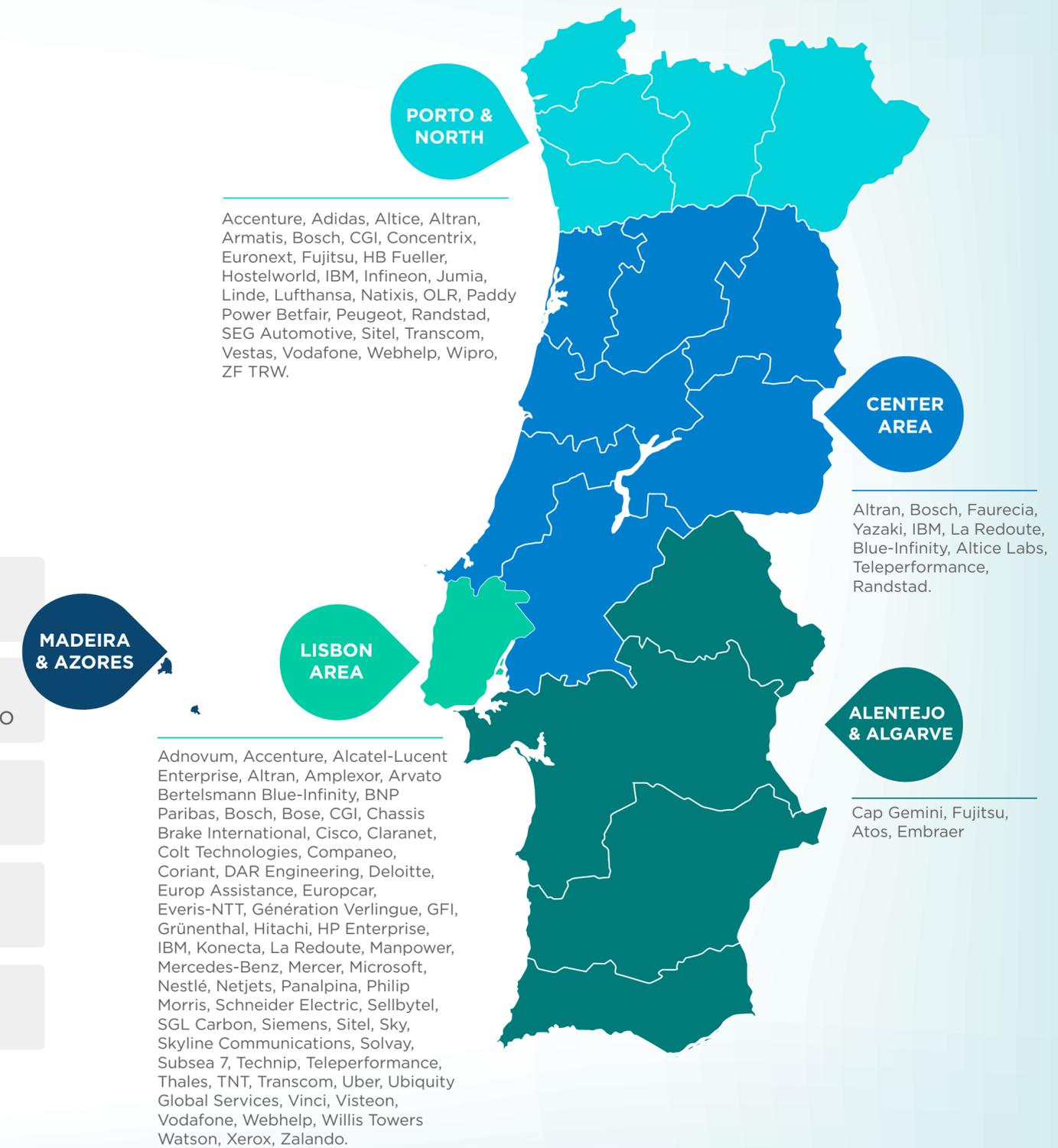
# Portugal on the radar of multinationals

Companies from all over the world choose Portugal to install business services centers: shared services centers, competence centers and business process outsourcing.

**Around 140 companies have installed about 158 service centers in Portugal 92% are from foreign companies.**

Global business services and competence centers are driving innovation and efficiency and already play an important role in Portuguese economy.

 <b>AMYRIS</b> Opens a Biotech R&D center in Porto	 <b>SIEMENS</b> Opens its 'Cyber Security Operations Center' in Lisbon
 <b>BOSCH</b> Opens a technology center for automated mobility in Braga	 <b>Vestas</b> Strengthens R&D capabilities with a new engineering design center in Porto
 <b>Google</b> Opens a Tech Center for EMEA region, in Lisbon	 <b>Volkswagen</b> New software development center in Lisbon
 <b>Mercedes-Benz</b> Opens a Digital Delivery Hub in Lisbon	 <b>zalando</b> Opens its New Technology Hub in Lisbon
 <b>NATIXIS</b> Opens an IT development in Porto	 <b>NOKIA</b> Opens a new Global Shared Services Center in Lisbon area
 Expansion of the Lisbon Hub with Data & Services team	



# Portugal on the radar of multinationals

## MAJOR COMPANIES ARE INVESTING AND MOVING TO PORTUGAL

### RECENT INDUSTRIAL INVESTMENT:

- 
**SAKTHI**  
 New industrial unit.
- 
**GMD**  
 New industrial unit.
- 
**MECACHROME**  
 New industrial unit.
- 
**BORGWARNER**  
 Expansion of existing plant.
- 
**HOWA TRAMICO**  
 First industrial unit.
- 
**BOSCH**  
 Bosh car multimedia strengthens its R&D investment.
- 
**EBERSPÄCHER**  
 Opens exhaust technology plant.

### M&A OPERATIONS



Where are we today?



**Capital**

# Capital fuels the ecosystem!

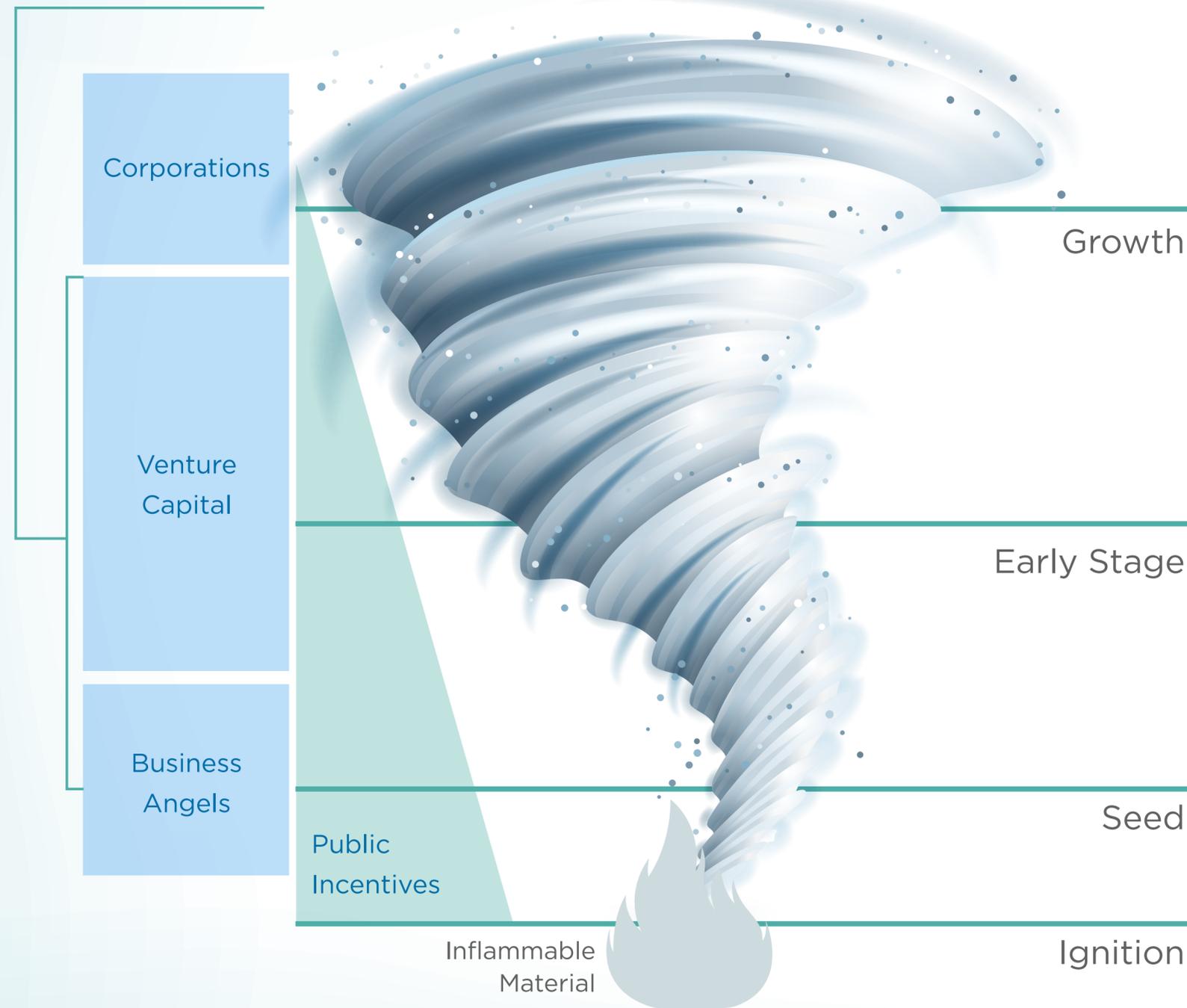
**Capital is the key** enabler that allows startups to research, experiment, develop and achieve the Holy Grail of product-market fit, upon which they can aspire to scale and eventually command a market segment and carry a unicorn label.

As an individual asset class, Venture Capital has the appeal of potentially providing “moonshot” payouts, but it is also a high risk business, as startup mortality rate is significant. It entails a lot more than just money, requiring a highly customized approach to a startup’s lifecycle, most often also requiring experience, insight, coaching and industry network.

Given its somewhat not very public nature, as well as capital’s global movements (especially in the European Union, with its free market), precise and detailed data are always a challenge to come by.



Some founders exit and pump back money into the ecosystem



## Capital: The virtuous spiral

Capital has the potential to generate a virtuous spiral.

It is difficult to gather “flammable material” together to form an ecosystem, but once the ignition point is reached and stars align, capital is the fuel that can propel a startup through its life cycle at lightning speed. Worth mentioning is the singularity where successful founders, after cashing in, become Business Angels and VCs, and give back to the ecosystem, funding and coaching young startups.

# Capital invested world wide, split by region

NORTH AMERICA represents ~50% of the allocation

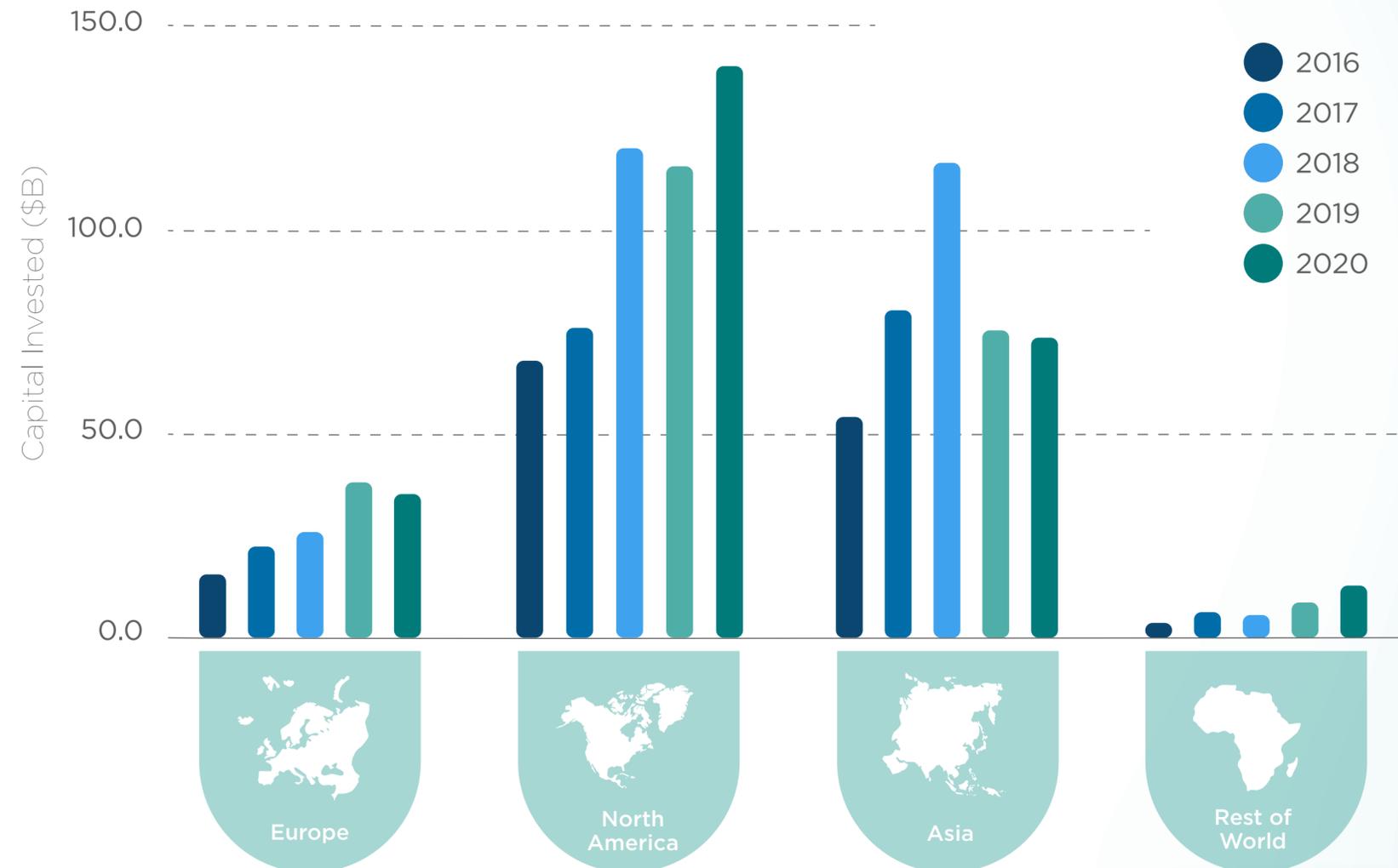
EUROPE'S share has been rising from 11% to 15% of the total

Venture Capital is mostly invested in 3 regions

ASIA typically weighs 30%

Total capital has risen 11% in 2020, in spite of Covid-19 effects

CAPITAL INVESTED (\$B) IN EUROPE, NORTH AMERICA, ASIA AND REST OF WORLD BY YEAR



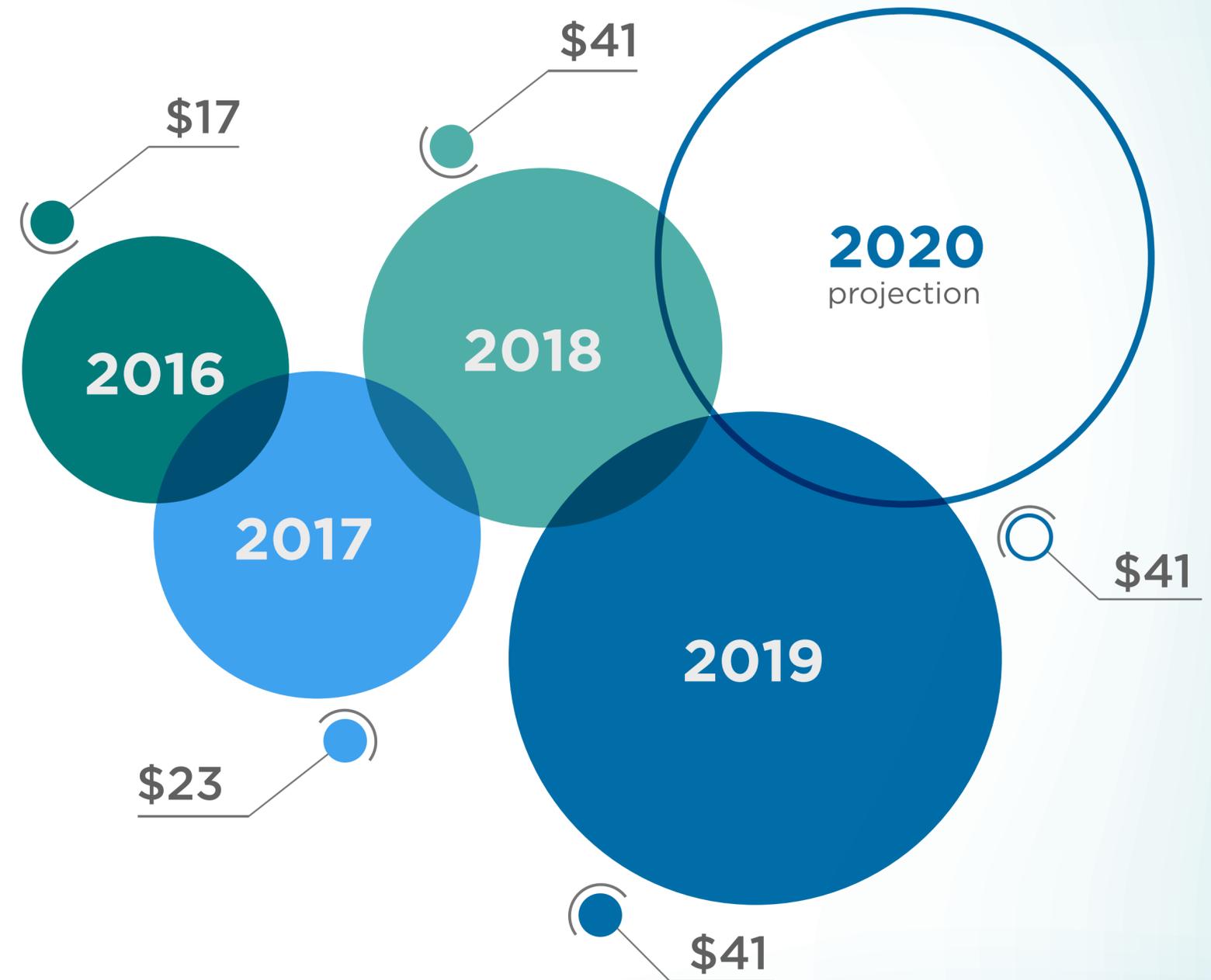
# Capital invested in Europe

**\$41B**

the projection for the total Venture Capital invested in Europe in 2020 is \$41B, pretty much in line with the previous year of 2019.

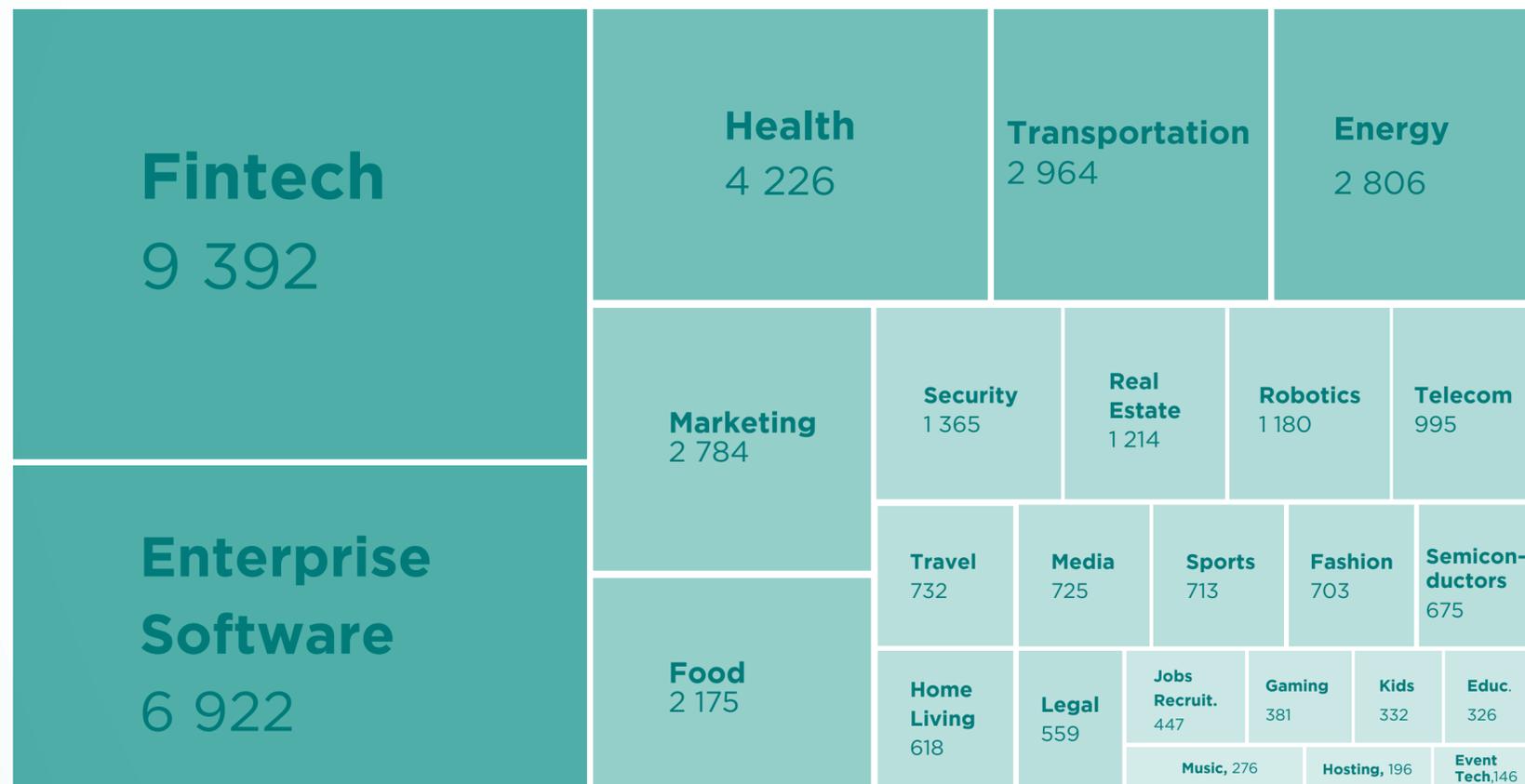
Evolution is significant, showing:

- Accelerating growth rates of **38%** (2016-2017), and over **78%** (2017-2019)
- Flat evolution in 2020, showing **resilience**, even considering the effect of Covid-19



# Invested capital allocation in europe, by industry

CAPITAL INVESTED (\$B) BY **INDUSTRY**



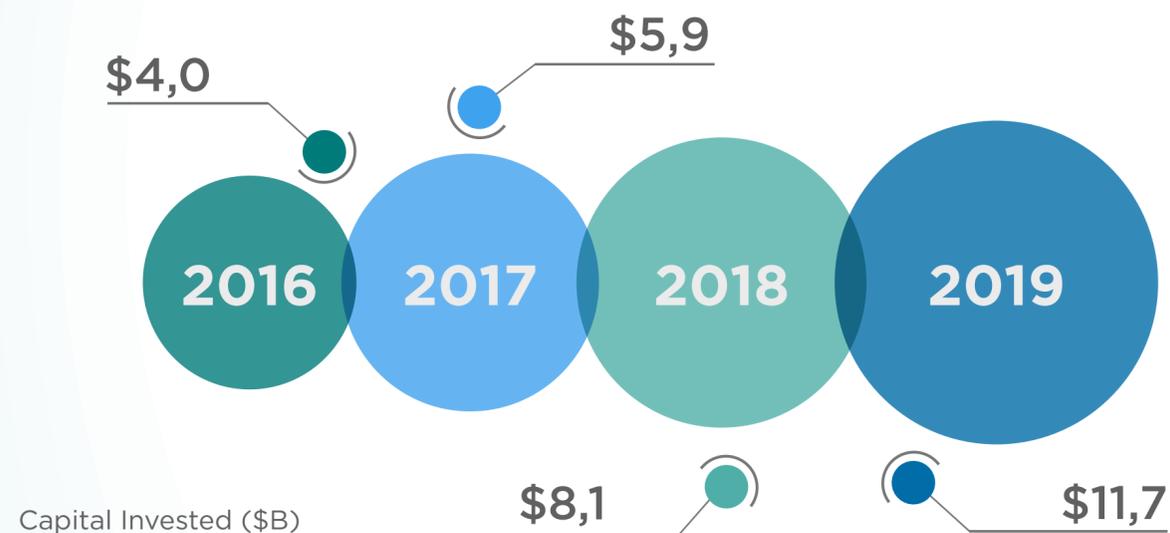
An analysis of the preferred industries for investment in Europe highlights the following data points:

- Fintech takes the lead, followed by Enterprise Software and Healthcare.
- The market is pretty much skewed towards B2B, not surprisingly.
- Europe's multi-country, multi-culture, multi-language environment does not favor a more uniform consumer market (like the USA), and a legacy of fragmented local regulation presents plenty of opportunities for disintermediation.

# Capital allocation in SaaS and big tech in Europe

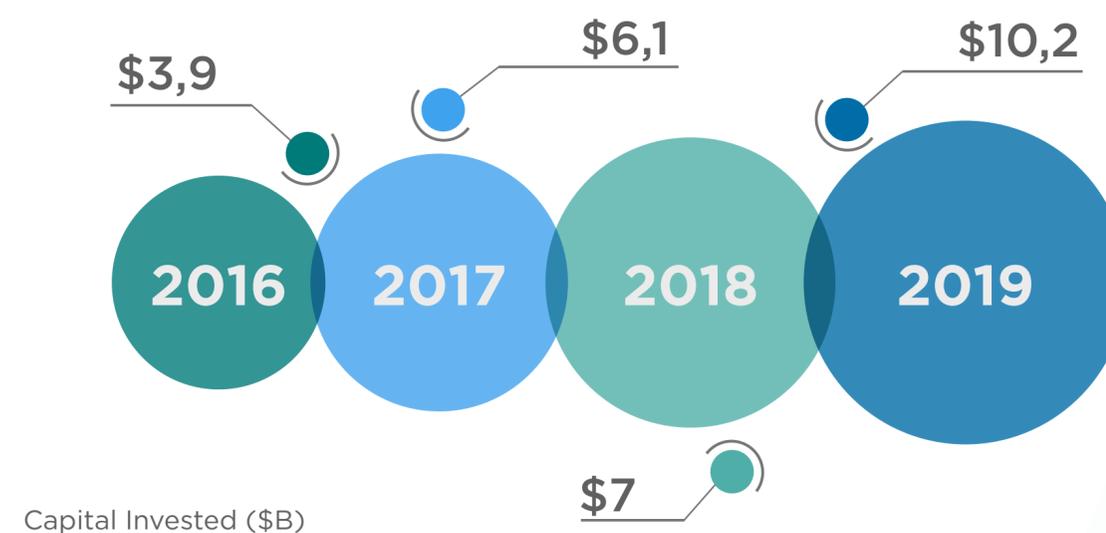
A FINER LOOK AT 2 FOCUS AREAS, SAAS AND BIG TECH SHOWS A HUGE BET ON TECHNOLOGY AND SOFTWARE:

CAPITAL INVESTED (\$B) IN EUROPEAN SAAS COMPANIES PER YEAR



**\$11,8B** Allocated to SaaS in 2019 represents a ~44% increase from 2018

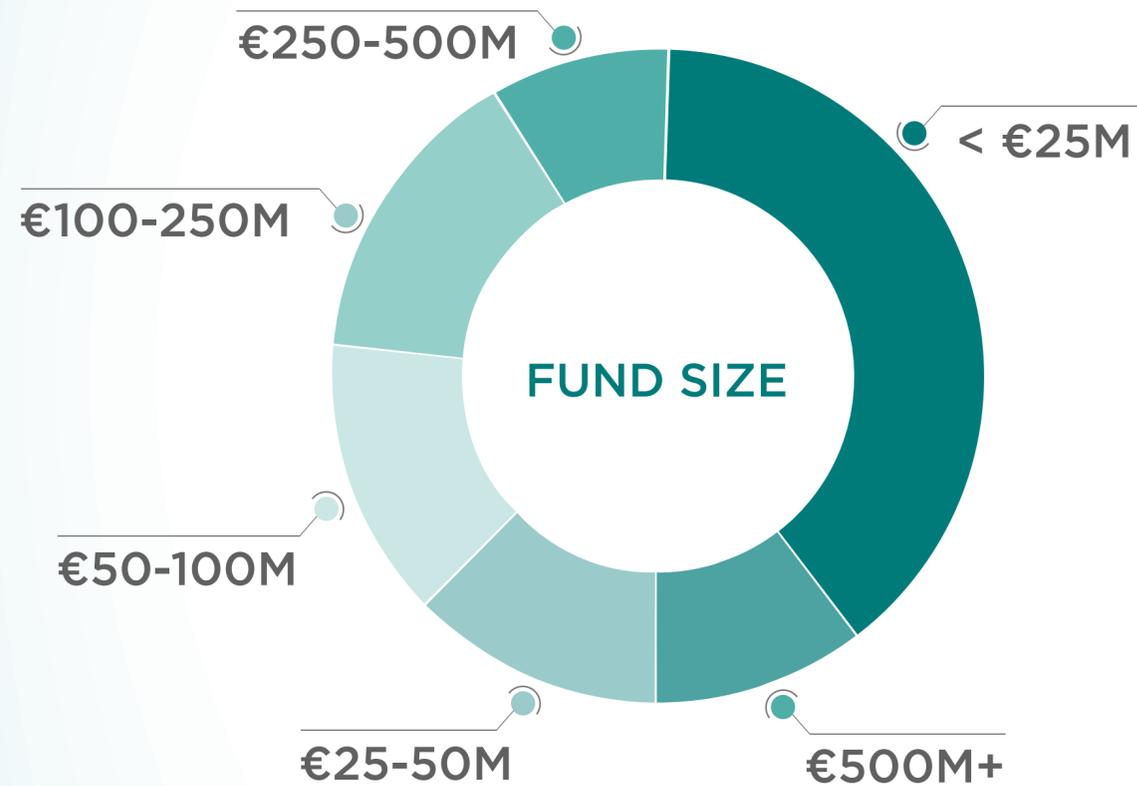
CAPITAL INVESTED (\$B) IN EUROPEAN DEEP TECH COMPANIES PER YEAR



**\$10,2B** Allocated to BigTech in 2019 represents a ~46% increase from 2018

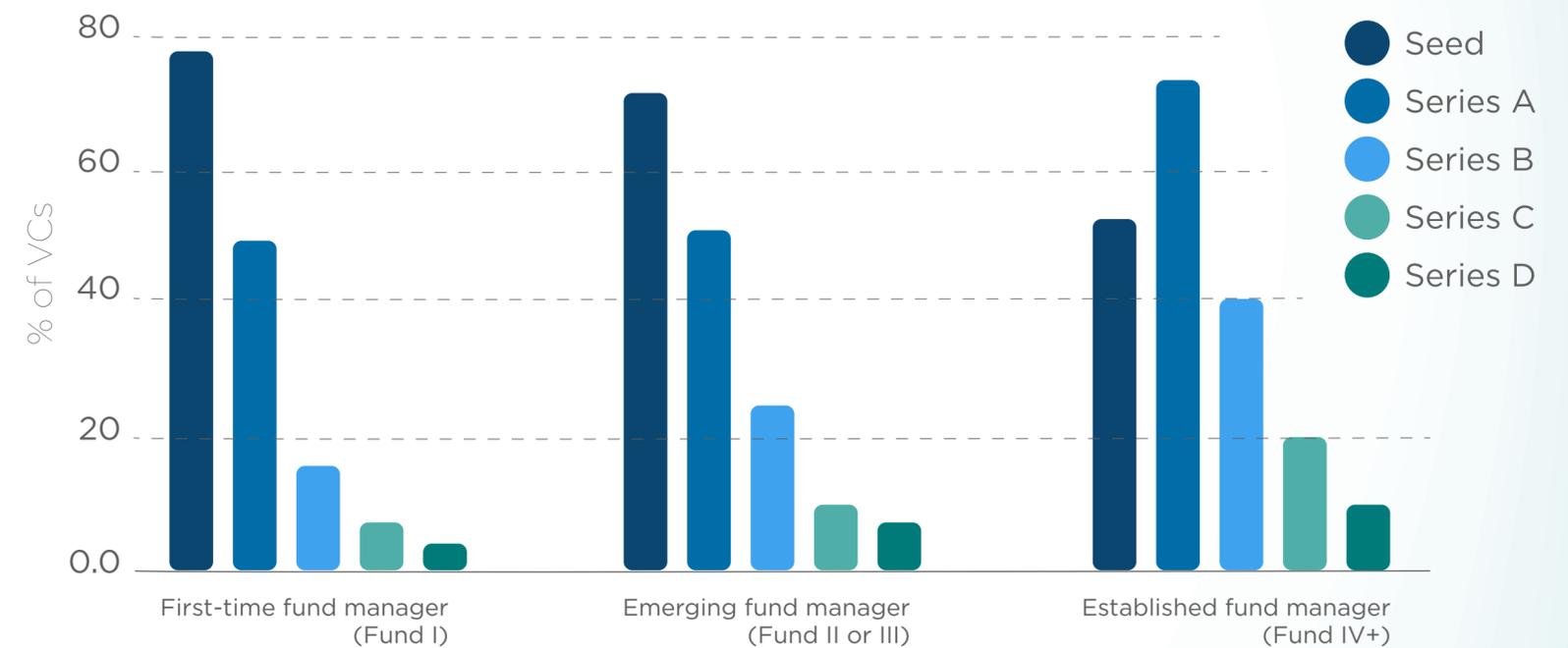
# Fund sizes and preferred investment stages in Europe

## CAPITAL MATURITY IN EUROPE:



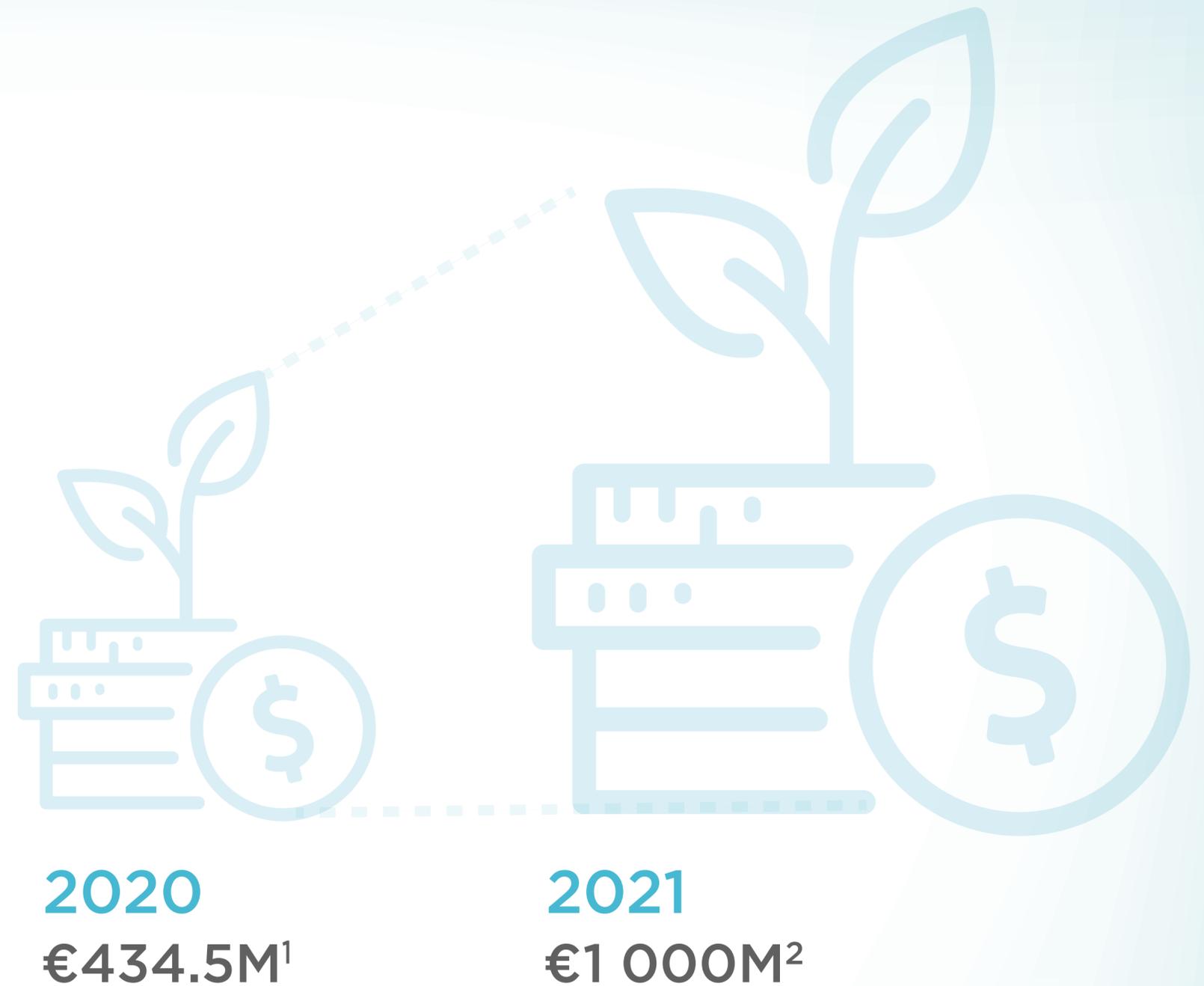
Europe is mostly an **Early Stage investor**, with small funds, **under 25M€**

## INVESTMENT STAGE



Rookie fund managers also tend to focus on **early stage**, and as they gain experience, tend to shift more into **Series A**, probably to **minimize risk**

# Total Estimated Investment in Portuguese Startups



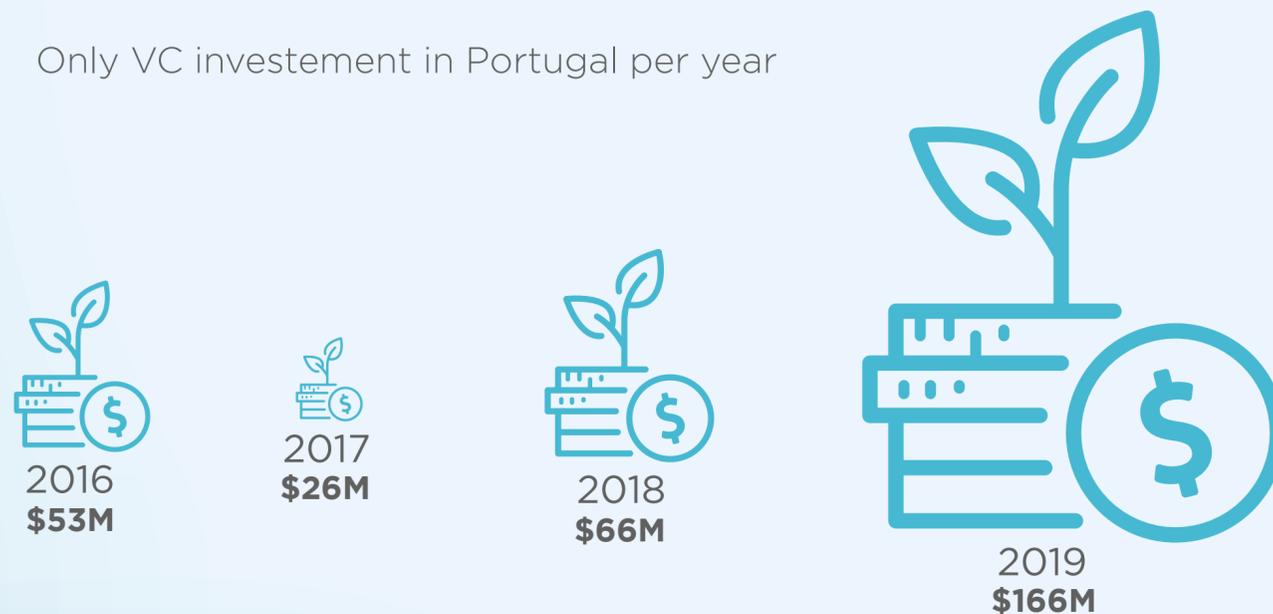
Sources: 1 - StartupPortugal research, considering all publicly announced deals, in Portugal, during 2020.  
2 - Dealroom, December 2021

# Only VC investement in Portugal: Evolution 2016-2019

Only VC investement in startups in Portugal, although an elusive number and difficult to calculate, is:

- Commonly accepted to be -166m€ in 2019
- Showing a x2,5 (!) growth since 2018
- Leaving the country at #17 in the European ranking with 0,43% of the overall total ~38,5b€
- Cumulatively, Portugal ranks #23rd in terms of countries in Europe with more capital invested

Only VC investement in Portugal per year



## Ranking 2019

1	United Kingdom	13 210
2	Germany	6 877
3	France	4 818
4	Sweden	3 030
5	Switzerland	1 662
6	Netherlands	1 520
7	Spain	1 457
8	Finland	982
9	Romania	772
10	Italy	576
11	Denmark	547
12	Ireland	541
13	Belgium	468
14	Norway	372
15	Poland	229
16	Lithuania	183
<b>17</b>	<b>Portugal</b>	<b>166</b>
18	Croatia	154
19	Luxembourg	150
20	Russia	146
21	Austria	134
22	Greece	121
23	Estonia	93
24	Cyprus	84
25	Hungary	77
26	Czech Republic	35
27	Iceland	22
28	Malta	21
29	Latvia	21
30	Bulgaria	17

Sources: Dealroom.co  
data excludes: biotech, secondary transactions, debt, lending capital, and grants, and Israel.

# A look into capital registered in Portugal in 2019

Capital knows no borders, and is difficult to track; however, information about funds registered locally with the local regulator (CMVM) is publicly available and it is worth referring to.

- In 2019, the overall amount of assets under management grew 6,6% to 5,1b€.
- Here's the current landscape of the industry:

**#52**

**FUND MANAGEMENT**  
companies, managing  
135 funds

**36m**

average size of the  
funds

**11**

**FUNDS OVER 100M€**  
representing 54% of the total  
amount under management

**12,5%**

**OF THE TOTAL AMOUNT**  
under management is  
in Funds below 20m€

**#620**

**EQUITY SHARES**  
below 500k€ mostly  
startups

**454m**

invested in Information  
Technology

**46m**

The reported total amount  
invested in 2019 in early stage

**454m**

The reported total amount  
of exits in 2019 in early stage

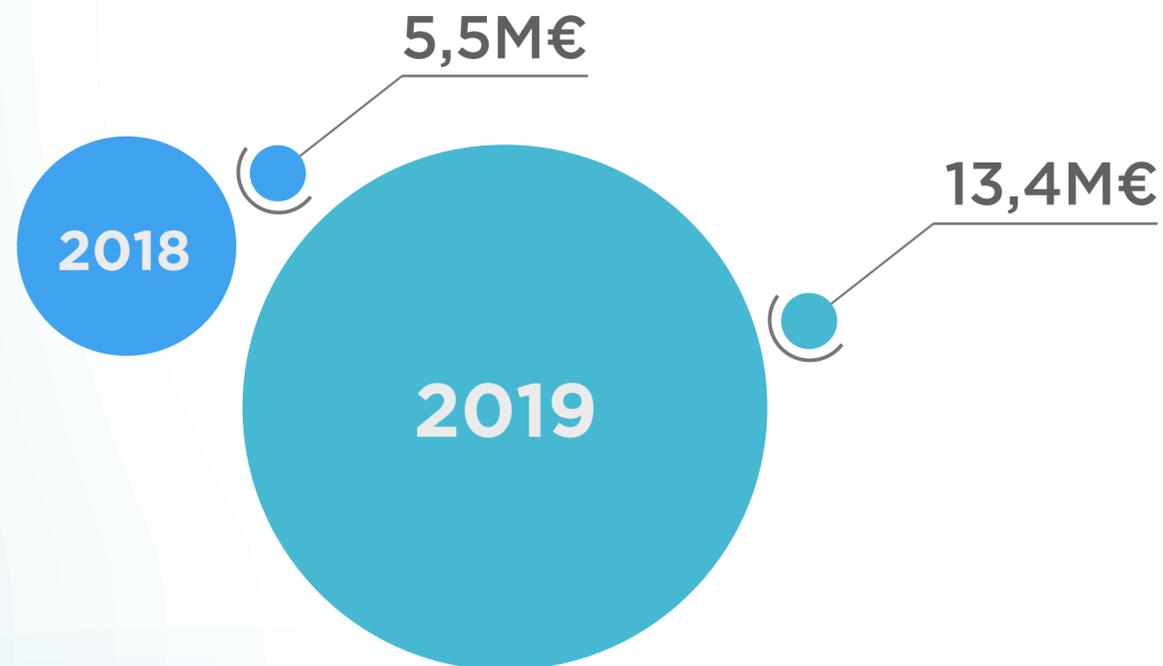
**Not all local funds invest or divest in local startups.**

**A local investment of 46m€ in early stage would mean that local funds represent -28% of the total amount of the inflow of capital into early stage in 2019.**

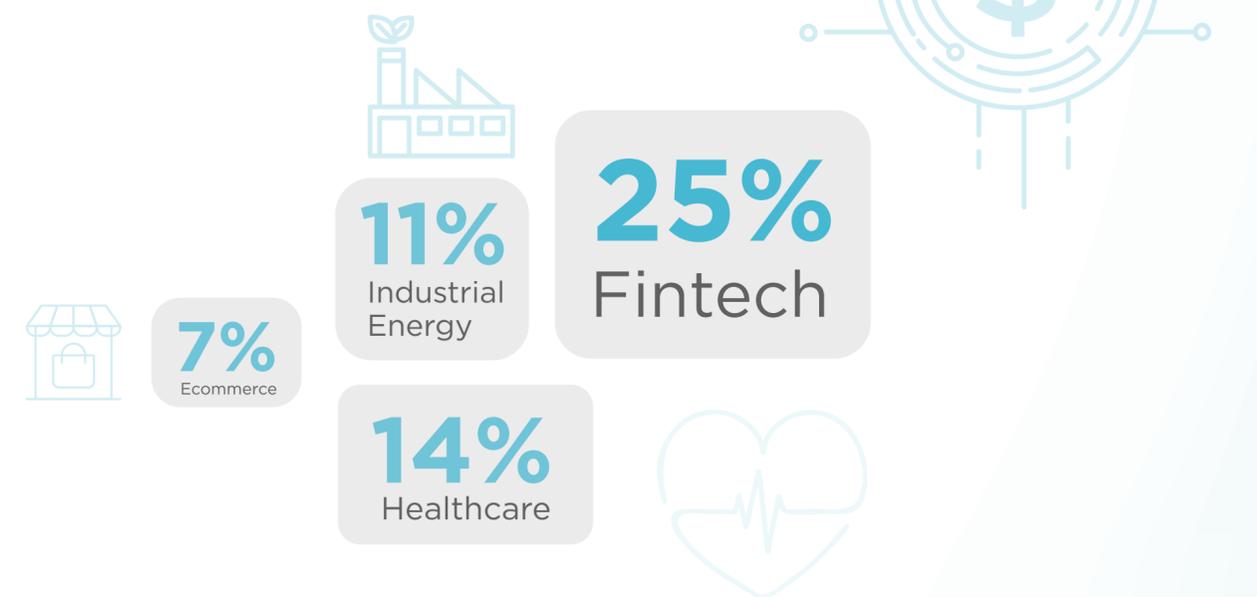
## A view from the side of the business angels on early stage

A view from the Portuguese Association of Business Angels (APBA) annual 2019 survey of its associates, which focuses primarily on the early stage, shows a ~x2,4 growth in the invested amount from 2018 to 2019, with Fintech, Healthcare and Industrial/Energy as the preferred industries.

INVESTMENT 2018/2019



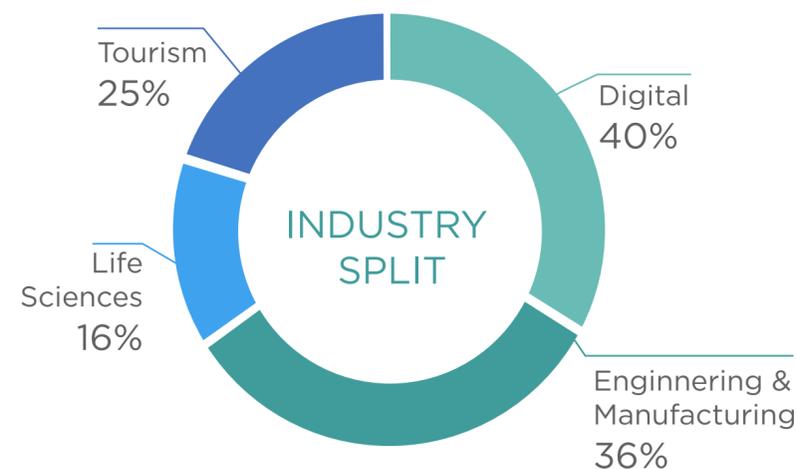
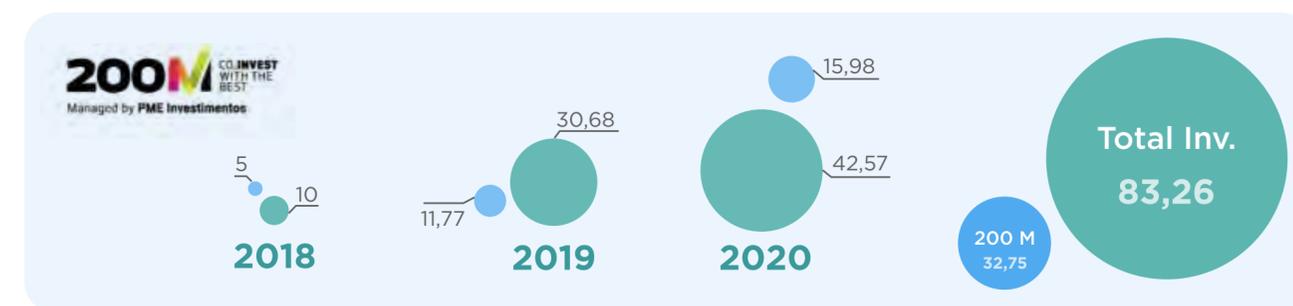
INVESTED PROJECTS BY INDUSTRY



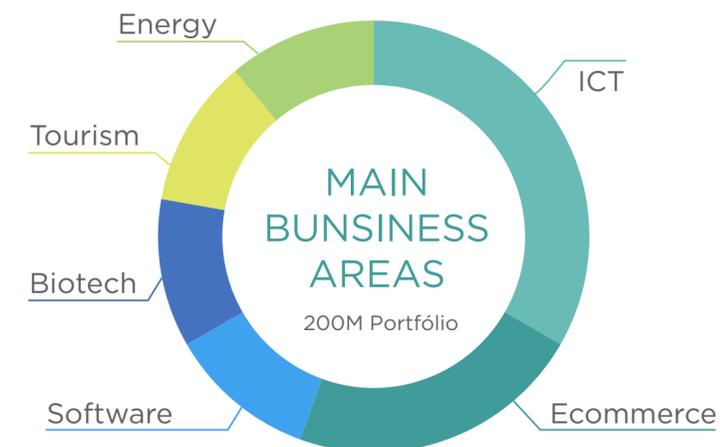
# The role of public capital in Portugal

## PORTUGAL'S 2 MAIN INSTRUMENTS OF PUBLIC CAPITAL, PORTUGAL VENTURES AND 200M HAVE HAD A KEY ROLE IN THE LOCAL ECOSYSTEM.

- Portugal Ventures playing the very early stage and leveraging ignition since 2012;
- 200m, a co-investment fund which has leveraged x2,5+ its capital, attracting foreign investors and providing mezzanine or early growth capital to high potential startups.



Interesting to note that **Digital/ICT represent the majority of the targets in both funds**, though the rest of the sectors not always match.





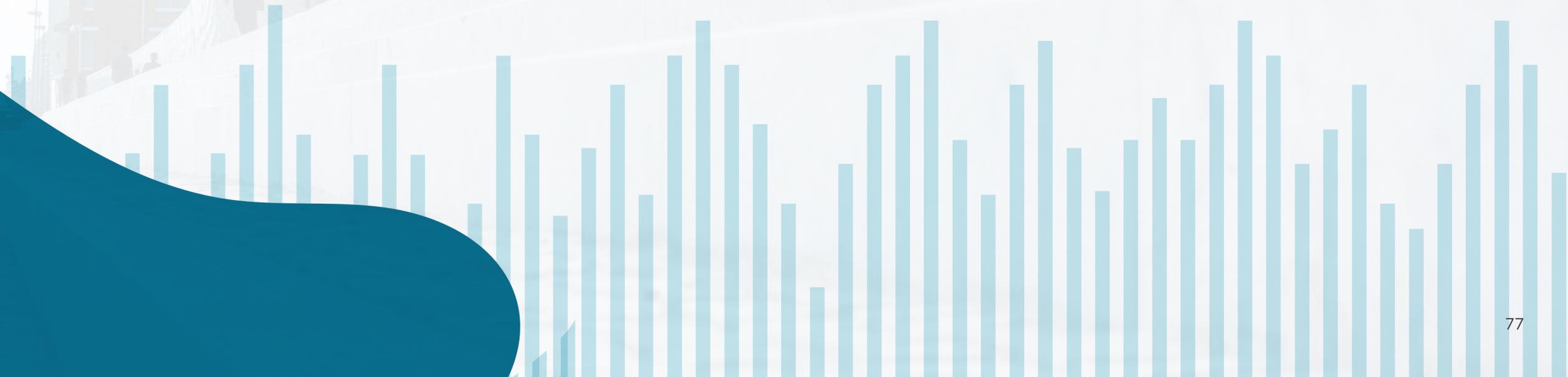
## ● PORTUGAL TECH II

The program was developed by the European Investment Fund (FEI), in cooperation with the Banco Português de Fomento (BPF), to support the development of the venture capital industry in Portugal.

Continuing the FEI - BPF capitalization partnerships launched in the last three years, which include the Portugal TECH I, Portugal Growth and Portugal Blue programs, the new program will have a national allocation of 50 million euros, to which an additional 50 million euros of European funds.

In total, Portugal TECH II aims to mobilize 250 million euros in venture capital investments to support technology transfer projects from universities to the market, as well as technology-based start-ups with high potential in areas such as artificial intelligence, machine learning, fintech, health tech and cybersecurity.

# KPIs at a Glance



**166M** IN 2019,  
GREW 150%  
From 2018

RANK:  
**#17** IN EUROPE  
ON INVESTED  
CAPITAL  
Dealroom

**> 1 000M** FUNDS  
RAISED BY  
PORTUGUESE  
STARTUPS  
Dealroom, 2021

RANK:  
**#39 / 190** ON EASE  
OF DOING BUSINESS  
The World Bank 2019

RANK:  
**#1 / 190** ON “TRADING  
ACROSS BORDERS”  
The World Bank 2019

**2<sup>nd</sup>** MOST OPEN COUNTRY FOR  
“FOREIGN DIRECT INVESTMENT”  
OECD, FDI restrictiveness index 2019

**7** UNICORNS

**2 159** STARTUPS 2020

**-13%** ABOVE THE AVERAGE  
Nº OF STARTUPS PER  
CAPITA IN EUROPE

RANK:  
**#12** FOR LISBON IN THE  
TOP 100 EMERGING  
ECOSYSTEMS  
Startup Genome  
2020



RANK:  
**#26 / 63** IMD  
WORLD TALENT  
RANKING  
IMD 2020

RANK: **#7 / 88**  
ENGLISH  
PROFICIENCY  
INDEX  
EF 2020

RANK: **28 / 132**  
GLOBAL TALENT  
COMPETITIVENESS  
Insead, Adecco, Google, 2020

**28%** OF GRADUATES  
IN S&T AREAS  
INE, 2020 (Sciences, ICT, Engineering)

**91%** OF THE  
STARTUPS' FOUNDERS  
HAVE A UNIVERSITY  
DEGREE  
EU Startup Monitor, 2018

**1,4%** OF GDP IN  
EXPENDITURE ON R&D  
IN 2019  
DGEEC

**2** BUSINESS SCHOOLS  
RANKING ON THE TOP 25 BEST  
FULL-TIME MBAS IN EUROPE  
The Financial Times

**1<sup>st</sup>** IN  
QUALITY  
OF LIFE  
Internations  
Expat 2019

RANK: **#21 / 141**  
IN INFRASTRUCTURES  
The Global Competitiveness  
Report 2019

**158** INCUBATORS  
**2576** ROOMS  
Grew 31% (2016-2019)  
RNI, 2019

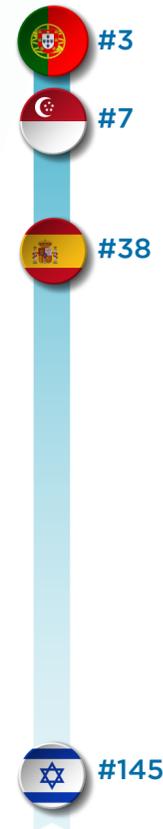
RANK:  
**#12 / EU28**  
IN CONNECTIVITY  
DESI 2020

**3<sup>rd</sup>** MOST  
PEACEFUL  
COUNTRY  
Global Peace  
Index 2020

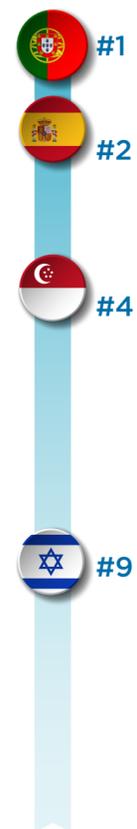
# How do we compare to Spain, Israel and Singapore?

## How do we compare to Spain, Israel and Singapore?

### Enablers



**GLOBAL PEACE INDEX 2020**  
Institute for Economics & Peace



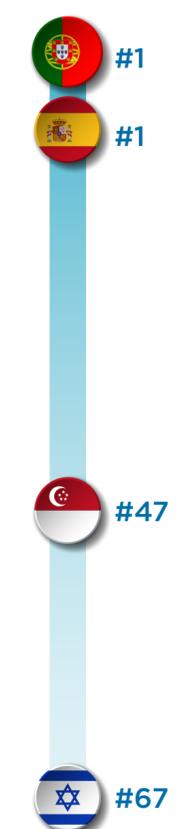
**QUALITY OF LIFE**  
InterNations Expat Insider 2019



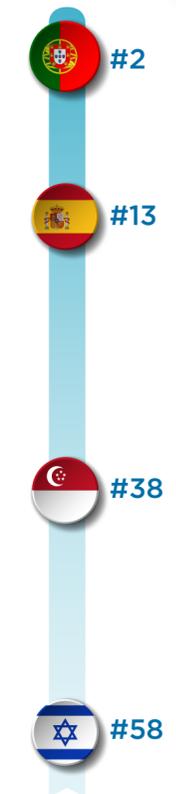
**INFRASTRUCTURE**  
WEF, The Global Competitiveness Index 2019



**FIXED ROADBAND SUBSCRIPTIONS (PER 100 PEOPLE)**  
World Bank 2019



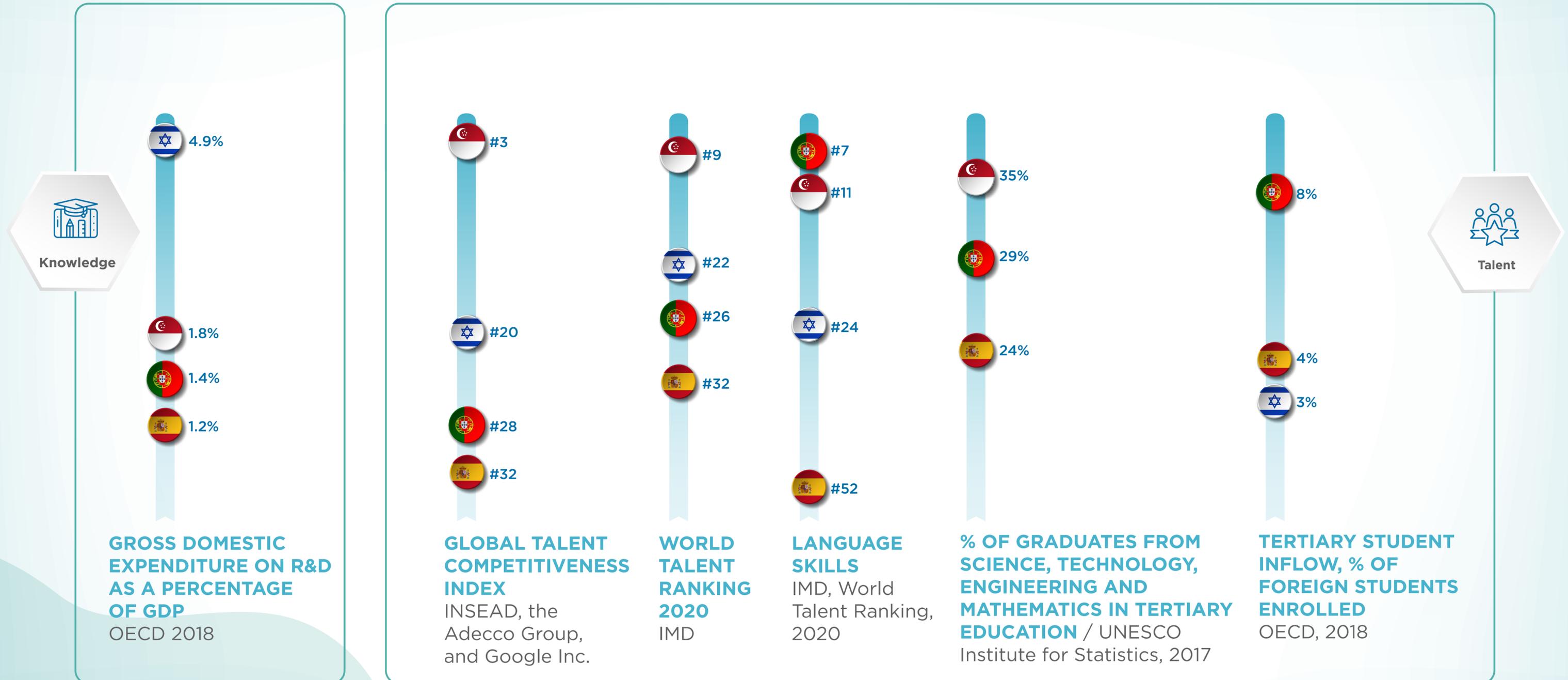
**TRADING ACROSS BORDERS**  
The World Bank



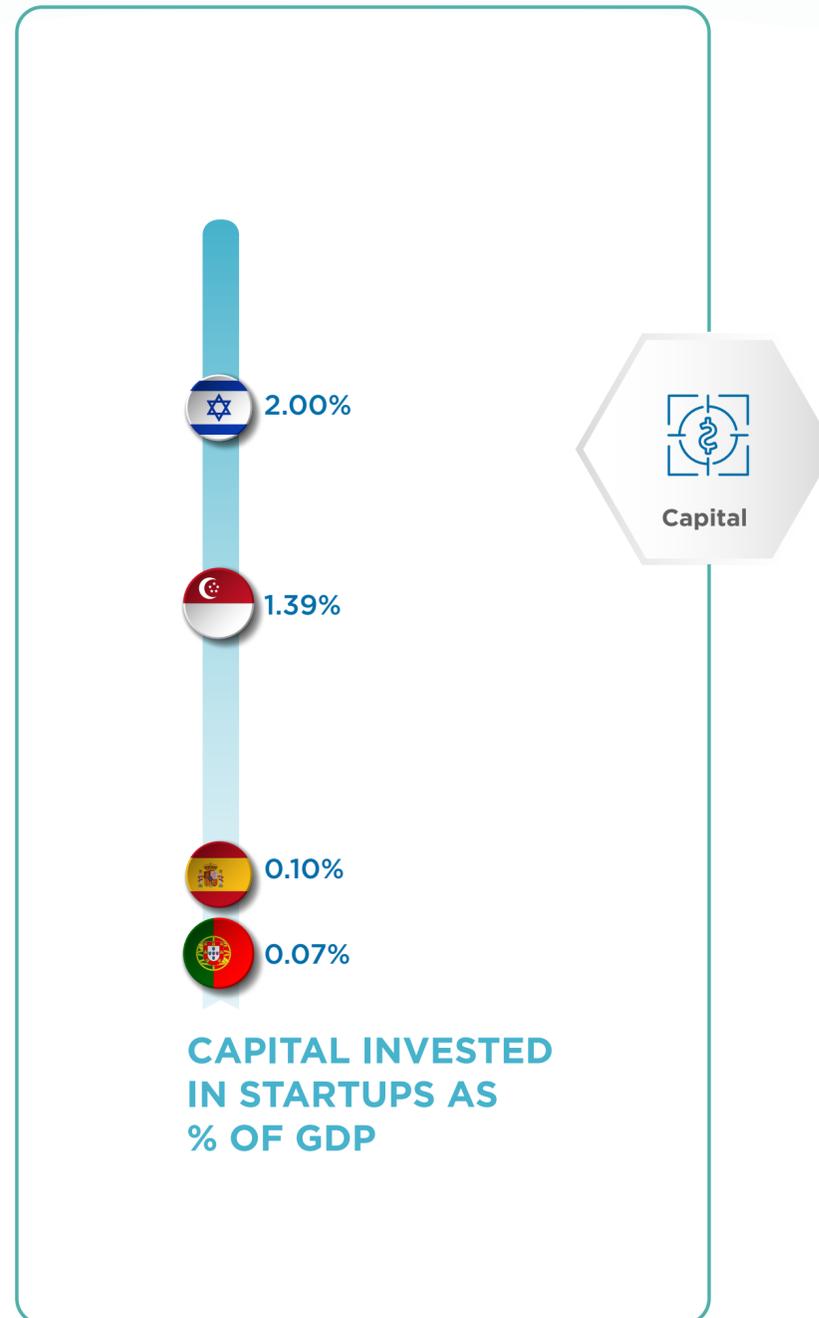
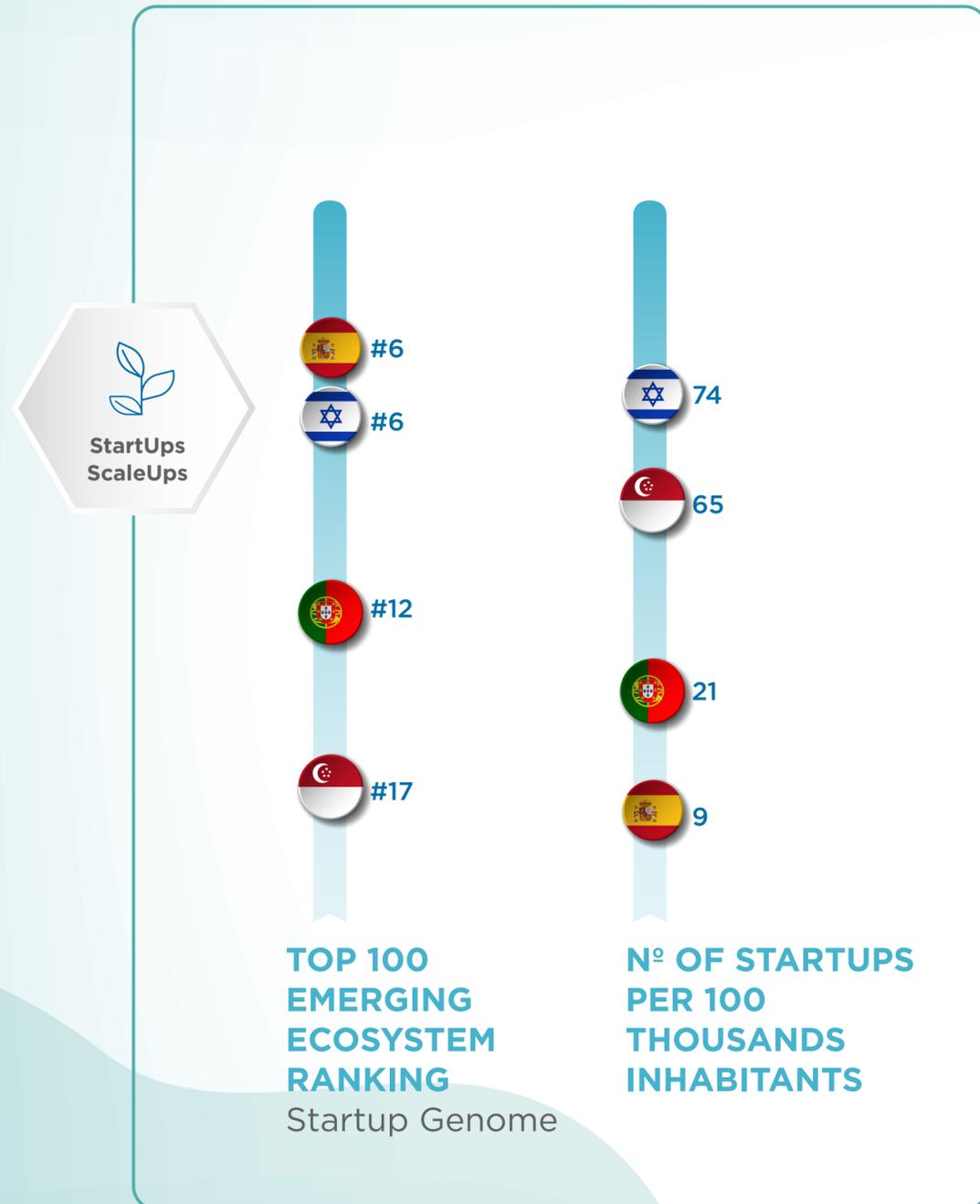
**OPENNESS TO FDI**  
OECD, FDI Regulatory Restrictiveness Index, 2019

### Policy, Regulation & Incentives

## How do we compare to Spain, Israel and Singapore?



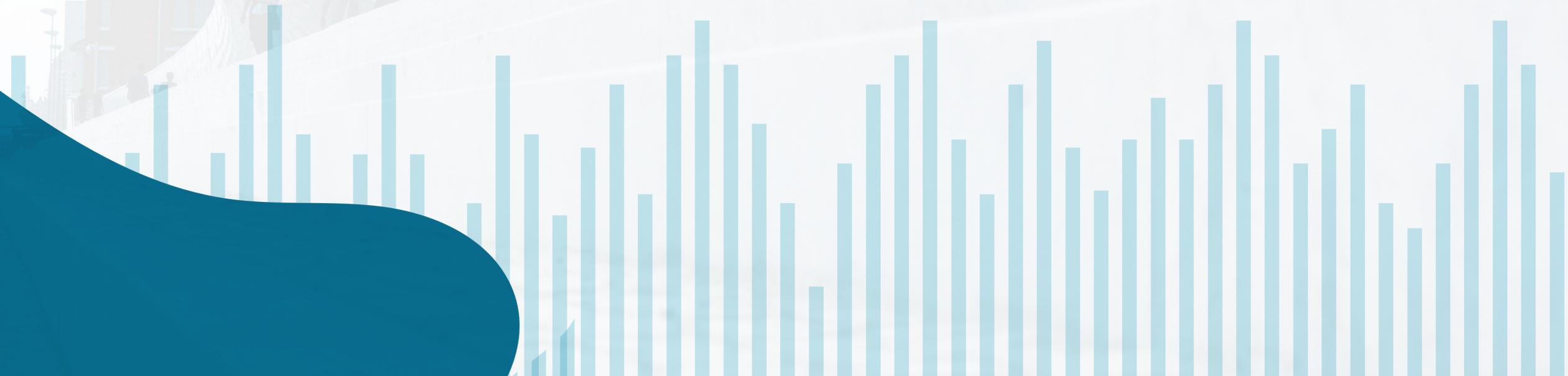
# How do we compare to Spain, Israel and Singapore?





# The voice of the founders

Survey results



# Methodology

To assess the profile and opinion of Portuguese startups this study surveyed the **founders of 155 startups.**

## DETAILS

Survey method:  
online  
questionnaire

Source of  
contacts:  
Startup Portugal  
and Incubators

Answers were  
collected from  
April 15 to May 31,  
2021

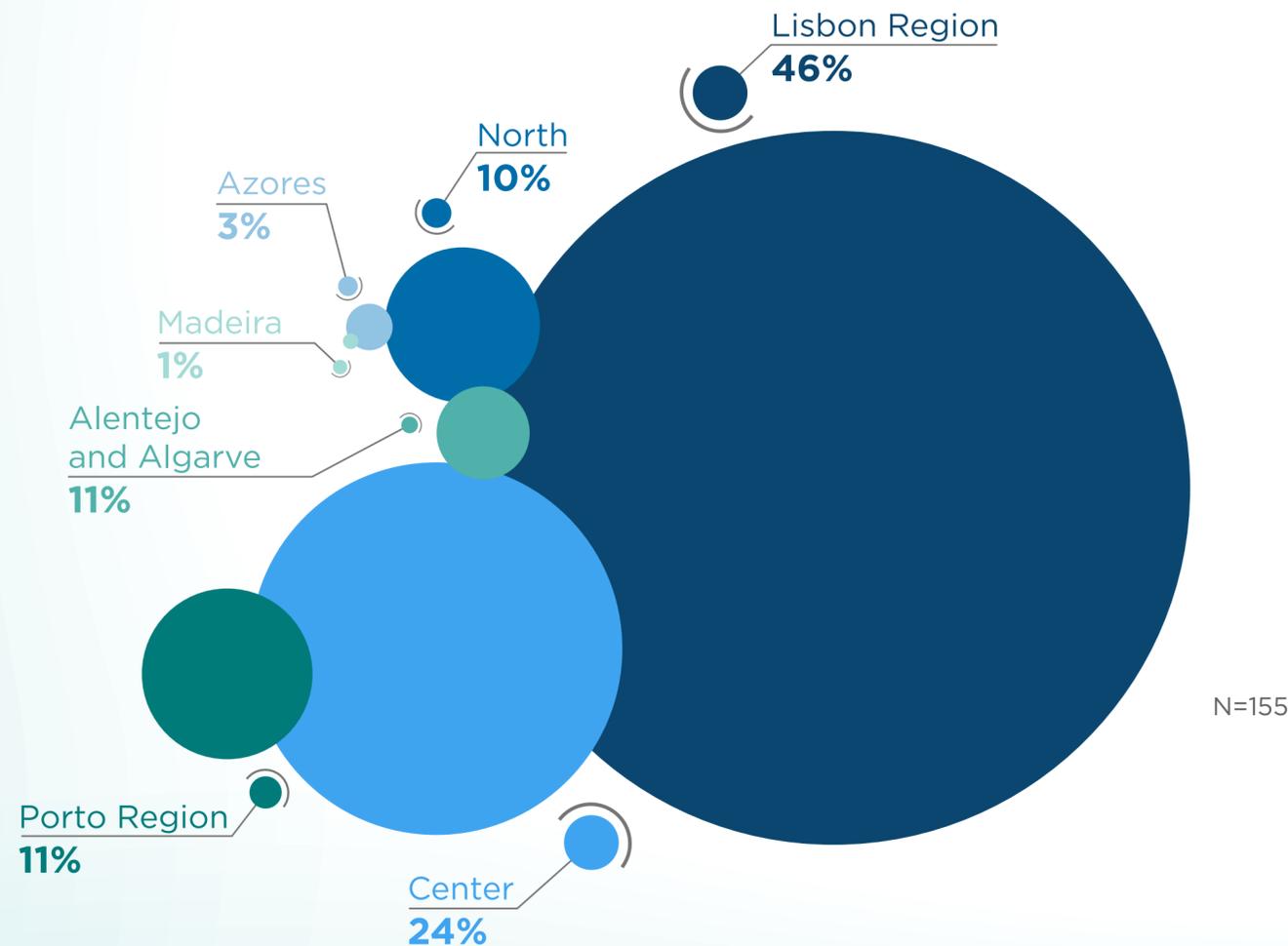
Answers were  
aggregated to  
produce the  
statistical results  
presented in this  
section



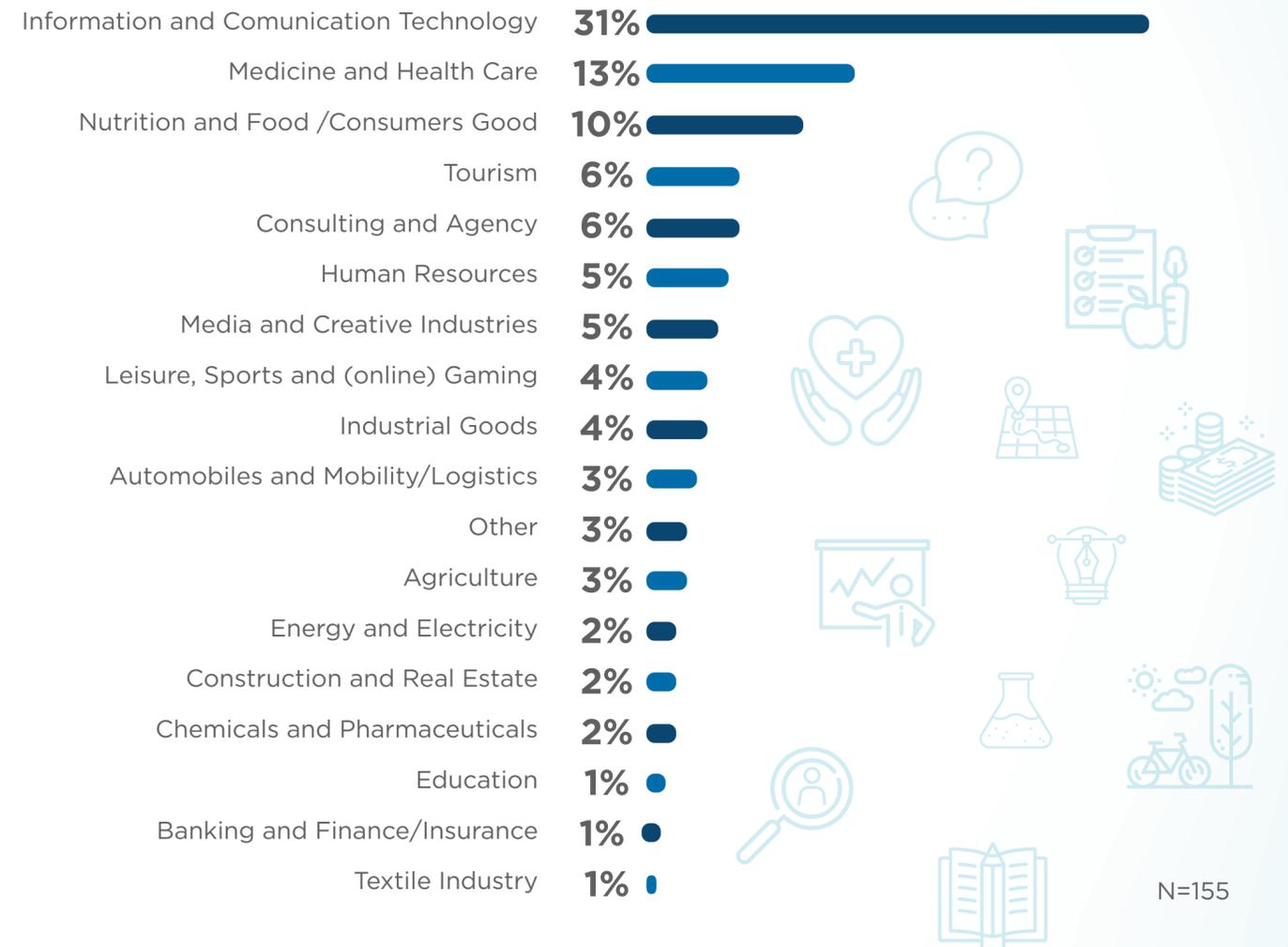
# Sample characteristics

## THE DISTRIBUTION OF INQUIRED STRATUPS BY REGION.

WHERE IS YOUR STARTUP LOCATED?



WHAT IS YOUR **STARTUP'S** PRIMARY INDUSTRY SECTOR?

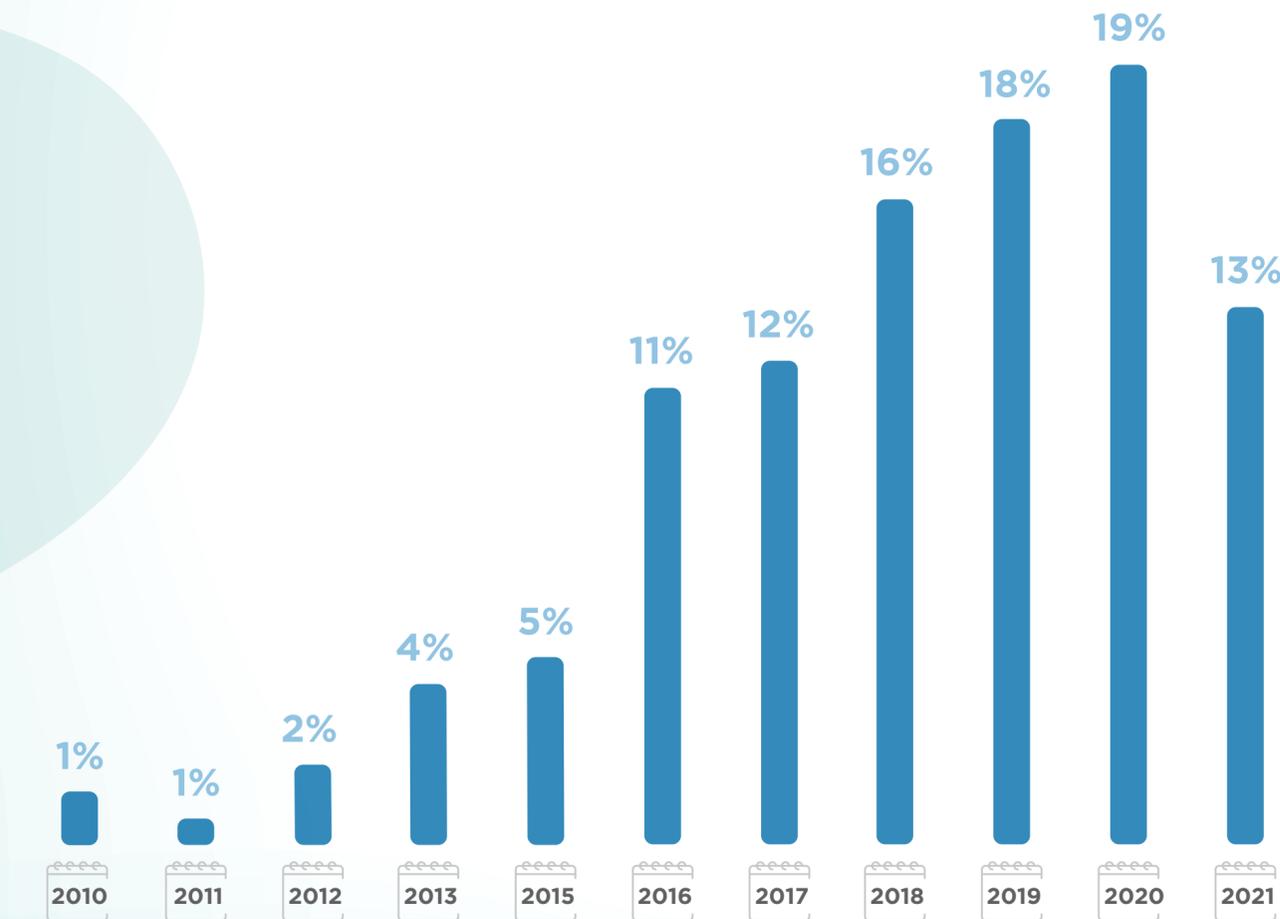


**ALMOST A THIRD OF THE PARTICIPANTS BELONGS TO THE INFORMATION TECHNOLOGY INDUSTRY.**

# Sample characteristics

ALMOST 90% OF THE PARTICIPANTS ARE 5, OR LESS, YEARS OLD

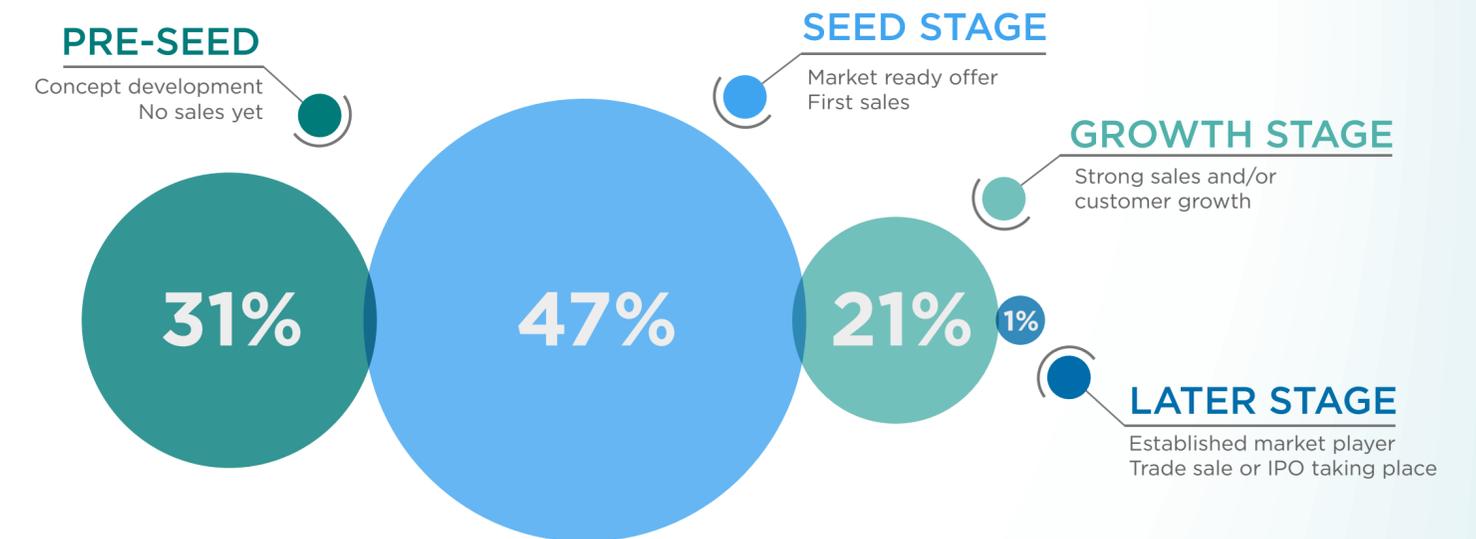
WHEN WAS YOUR STARTUP **FOUNDED?**



N=154

ALMOST ONE THIRD OF THE PARTICIPANTS IS AT THE CONCEPT DEVELOPMENT STAGE, THE REST IS ALREADY SELLING

AT WHICH **DEVELOPMENT STAGE** IS YOUR STARTUP?

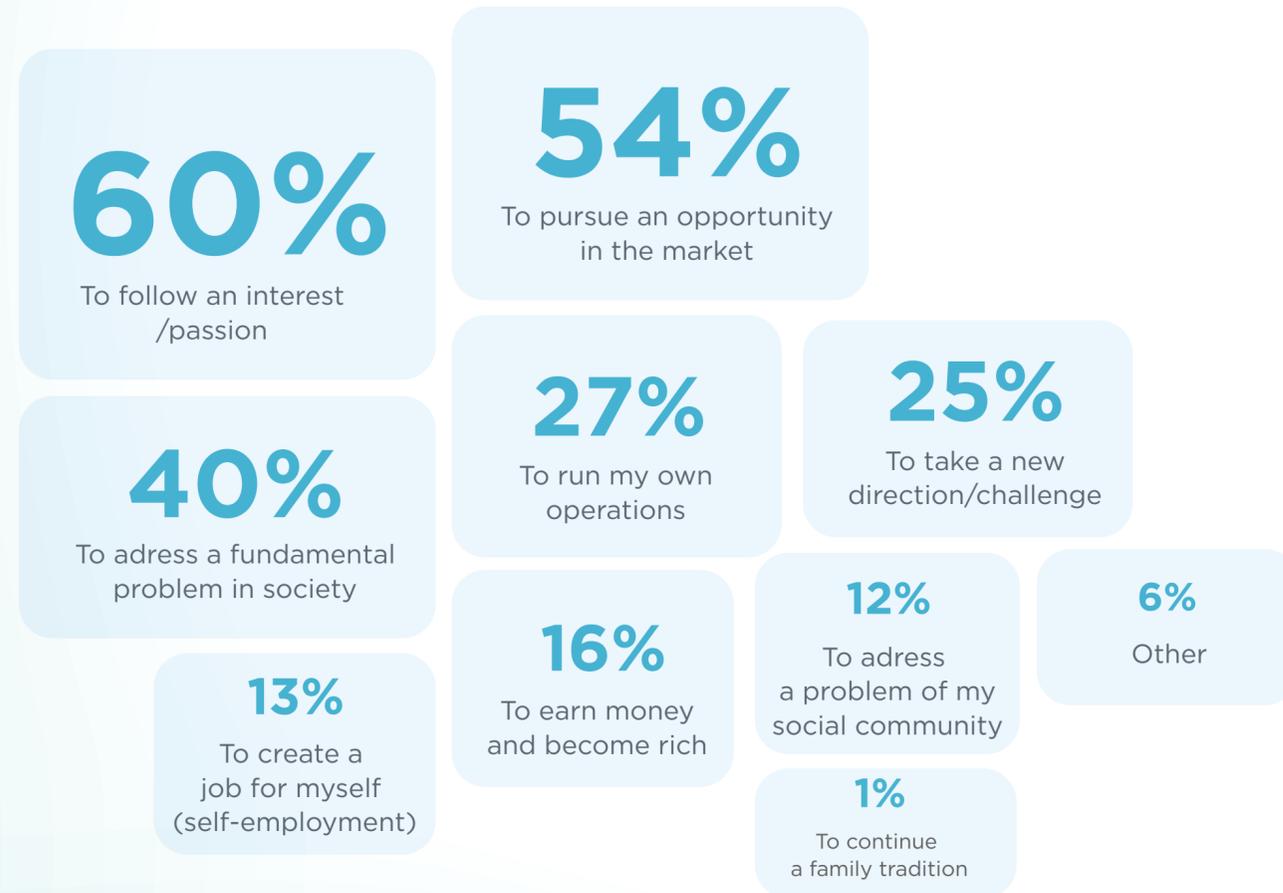


N=152

# Greater focus on B2B business

PASSION IS THE DRIVING FORCE OF ENTREPRENEURSHIP, BUT MARKET NEEDS AND BUSINESS PURPOSES ARE EQUALLY RELEVANT

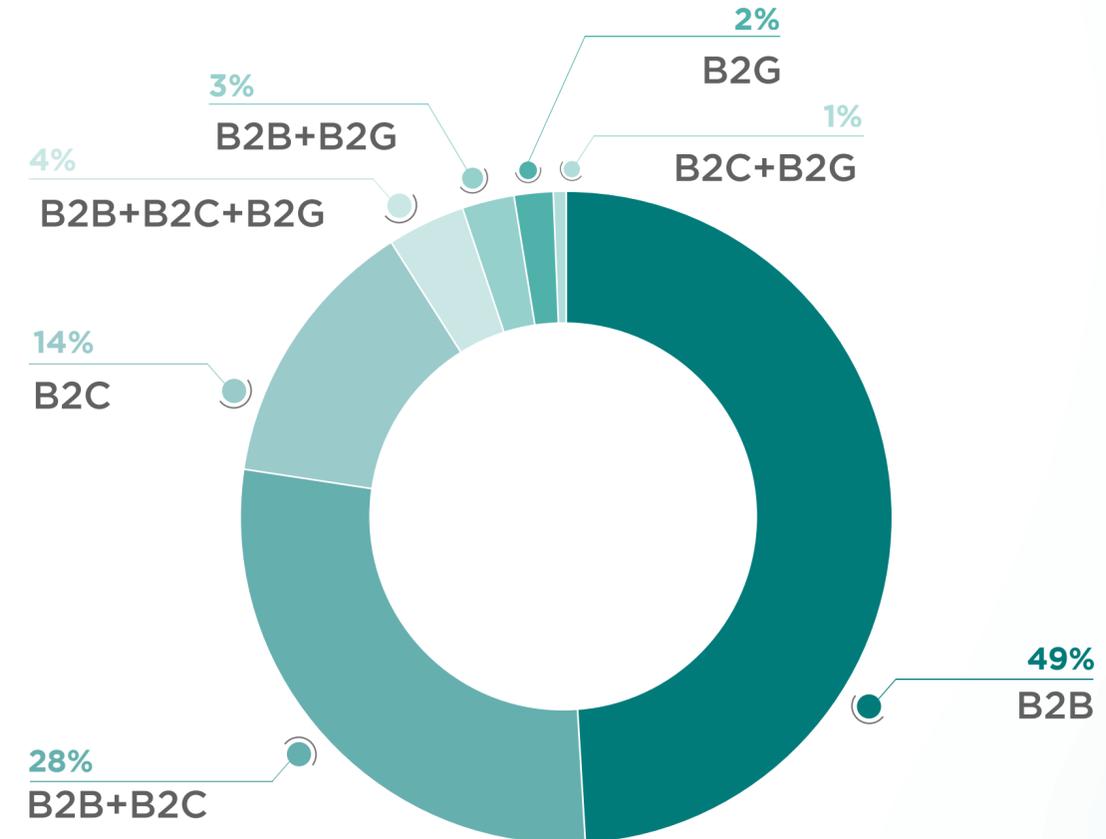
WHAT WAS YOUR **MOTIVATION TO FOUND YOUR OWN BUSINESS?**



N=146

# ALMOST HALF OF THE COMPANIES ARE ONLY B2B FOCUSED

WHAT TYPE OF CUSTOMERS DOES YOUR **STARTUP TARGET?**



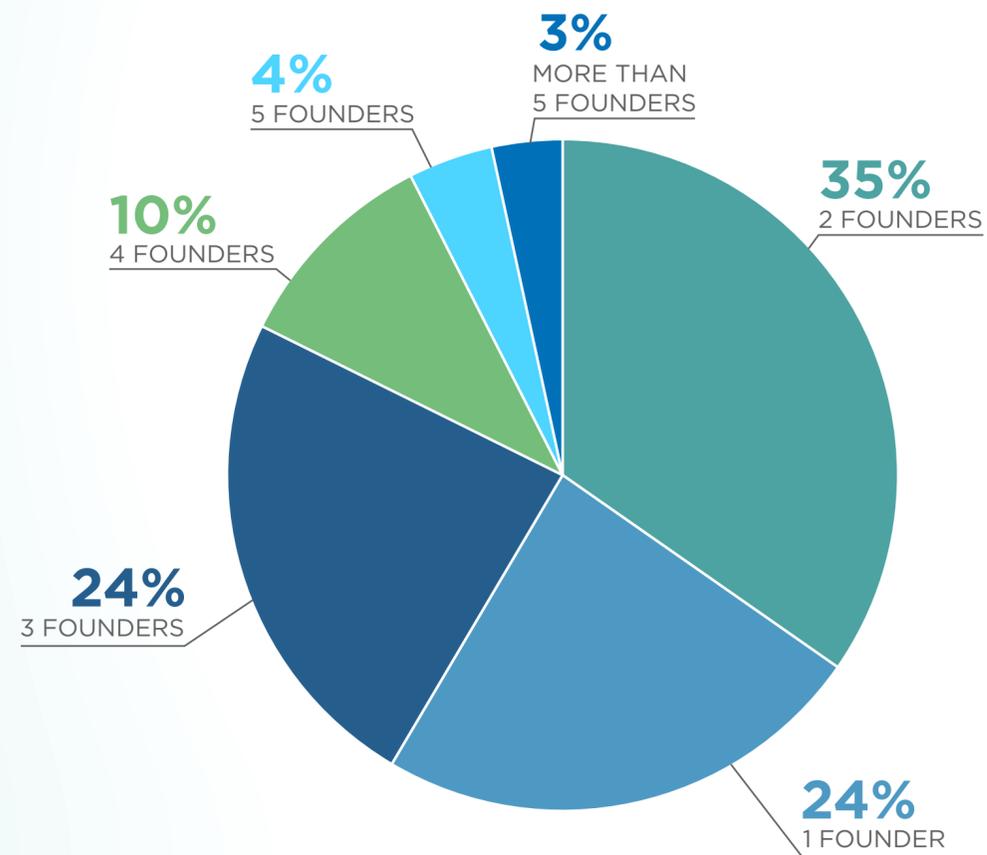
N=155

B2G = Business to Government

# Founders profile

## 2 FOUNDERS IS THE MOST COMMON NUMBER IN A BUSINESS STARTUP

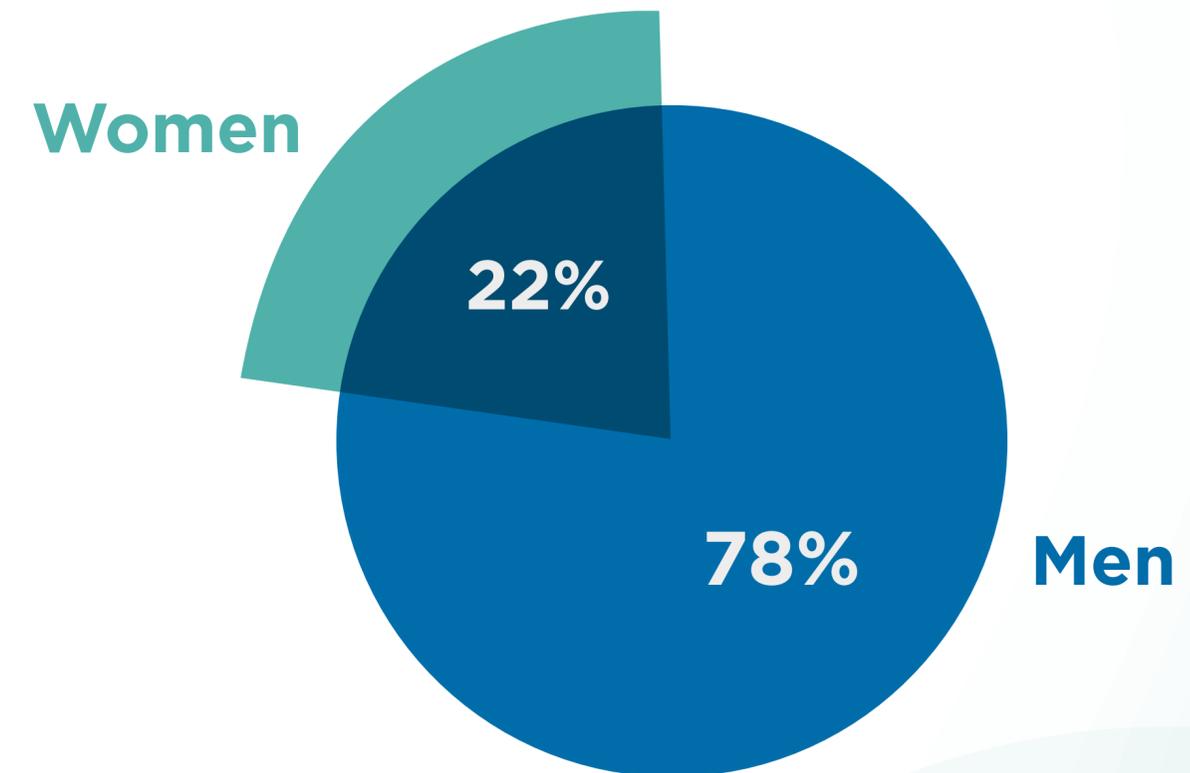
HOW MANY FOUNDERS CREATED THE STARTUP?



N=147

## MEN ARE THE MOST ENTREPRENEURIAL

HOW MANY WOMEN AS FOUNDERS?

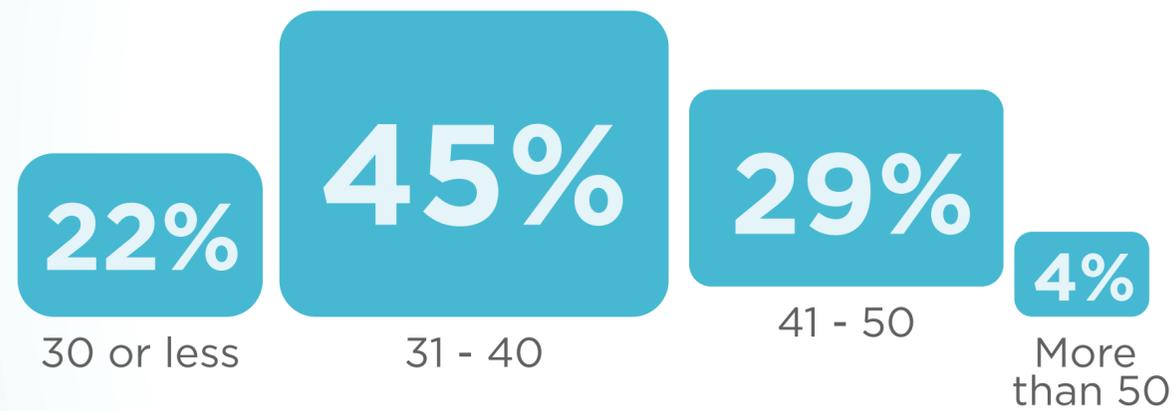


N=144

# Most of the founders are in their 30s

78% OF THE FOUNDERS ARE MORE THAN 30 YEARS OLD

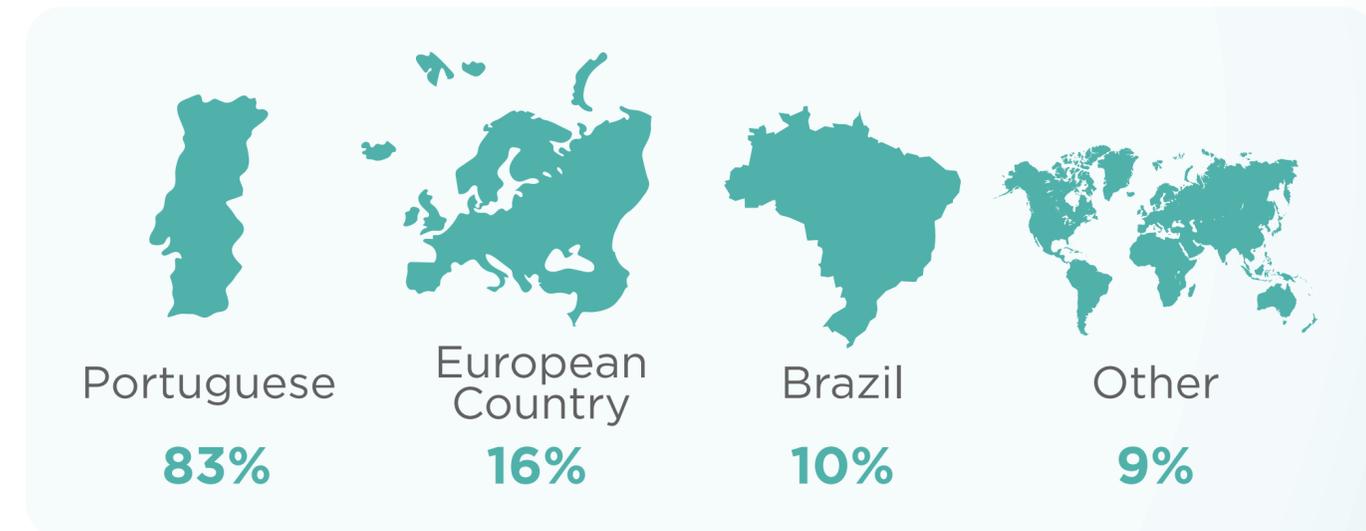
WHAT IS THE AVERAGE AGE OF THE FOUNDERS?



N=144

ONE THIRD OF THE COMPANIES HAVE FOREIGNERS AMONG THE FOUNDERS

WHAT IS THE NATIONALITY OF THE FOUNDERS?



14% with portuguese and another nationality

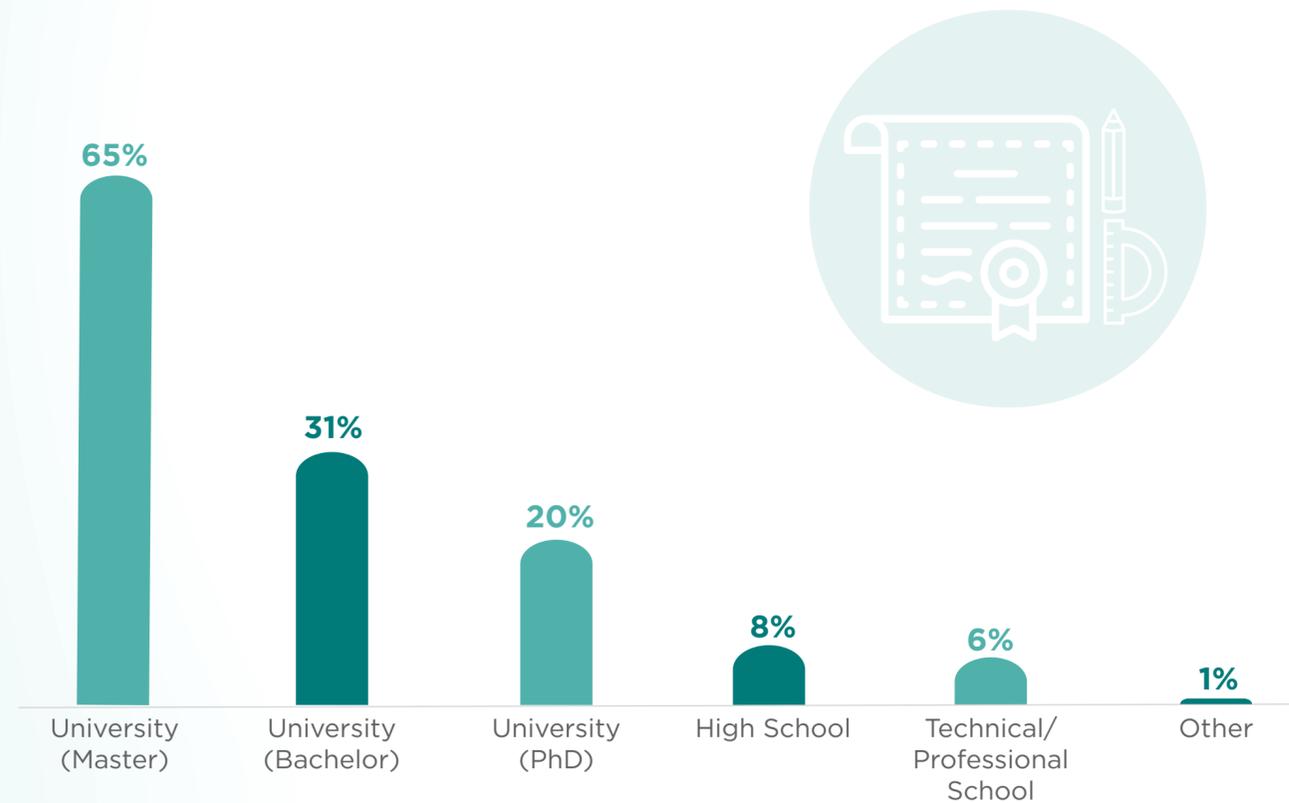
17% with only foreign founders

N=147

# Most founders have a university degree in technological areas

## THE MAJORITY OF THE FOUNDERS HAVE UNIVERSITY DEGREES

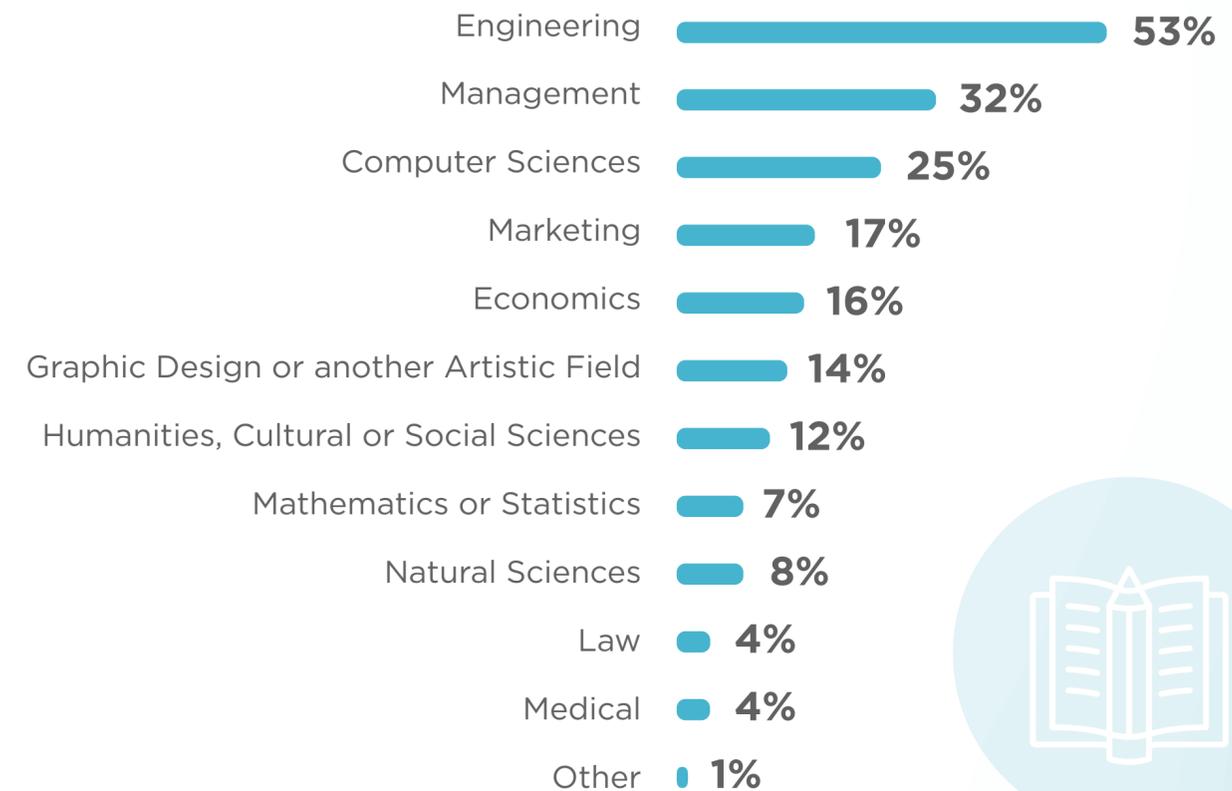
WHAT IS THE FOUNDERS' LEVEL OF STUDIES?



N=147

## HALF OF THE COMPANIES HAVE A FOUNDER WITH STUDIES IN THE AREA OF ENGINEERING

WHAT ARE THE AREAS OF STUDIES OF THE FOUNDERS?



N=147

# Small offices with plans to grow

HOW MANY **EMPLOYEES** DOES YOUR STARTUP HAVE **AT THE MOMENT**?

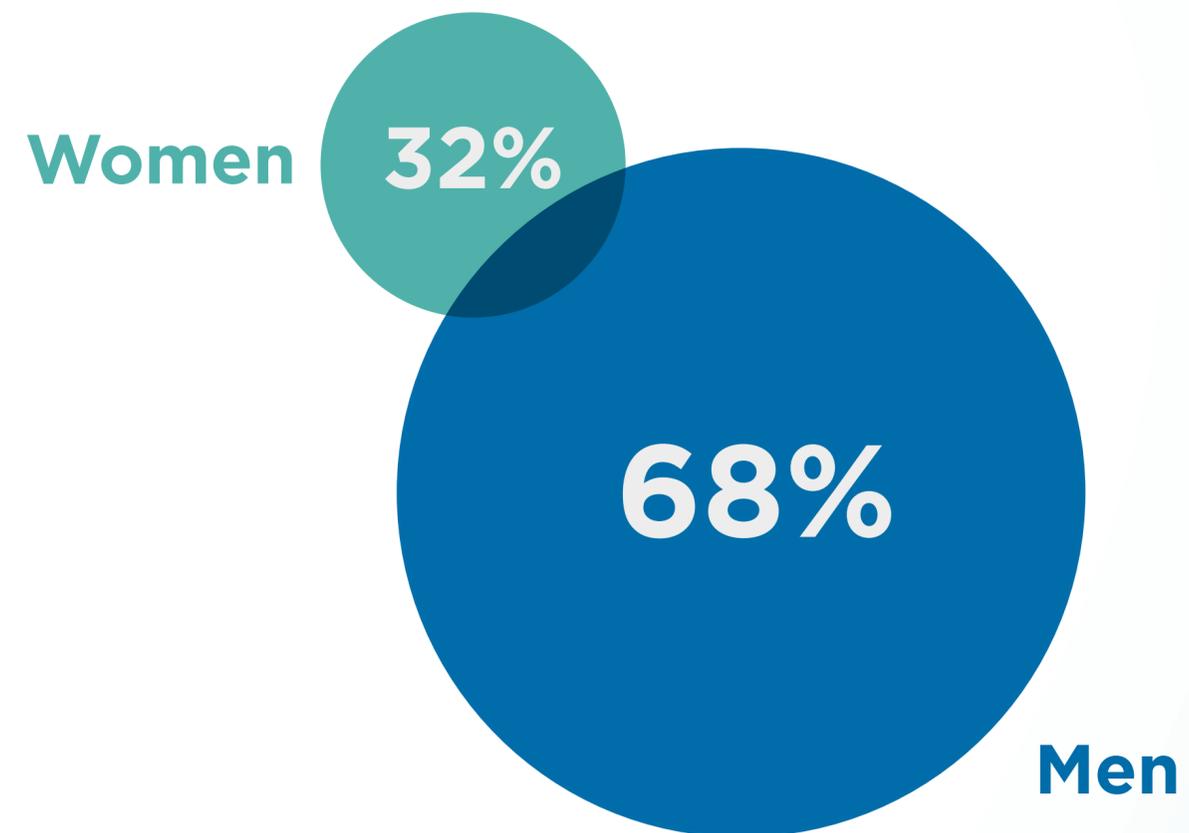


49% of the companies recruited in 2020

80% of the companies plan to recruit in 2021

N=136

HOW **MANY WOMEN** DOES YOUR STARTUP **EMPLOY**?

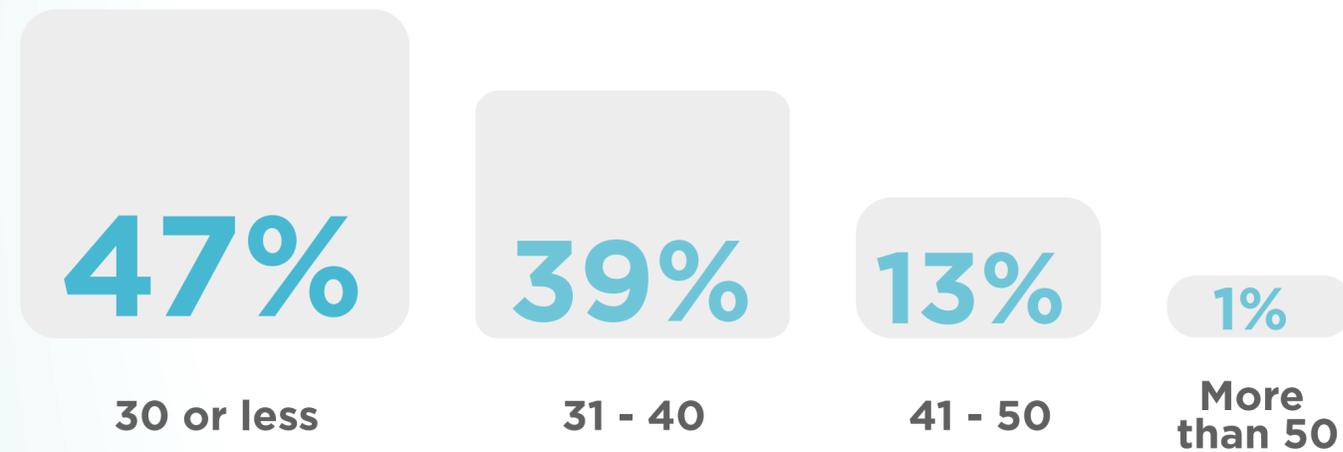


N=138

# The average age of employees is 33 years old

## PREVALENCE OF YOUNG TEAMS

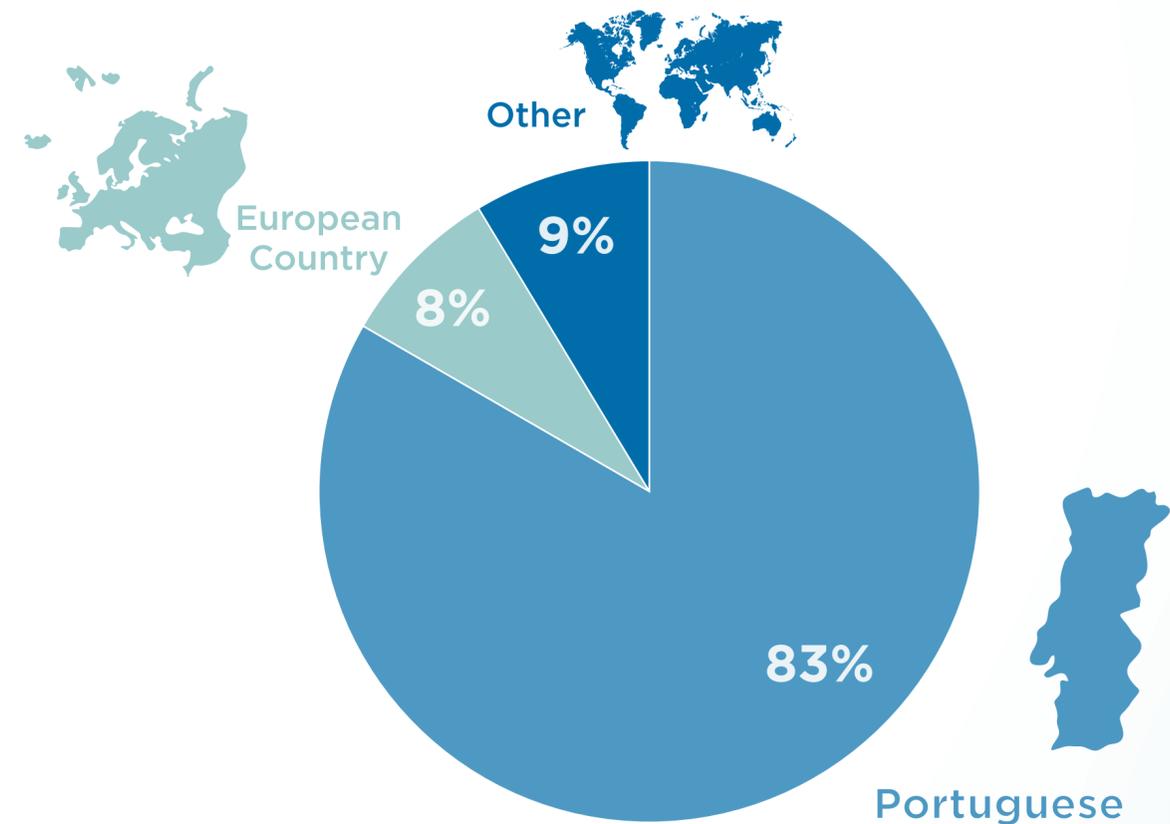
WHAT IS THE **AVERAGE AGE** OF THE EMPLOYEES?



N=117

## 17% OF THE EMPLOYMENT IS FOR FOREIGNERS

HOW **MANY EMPLOYEES** DOES YOUR STARTUP HAVE PER NATIONALITY?



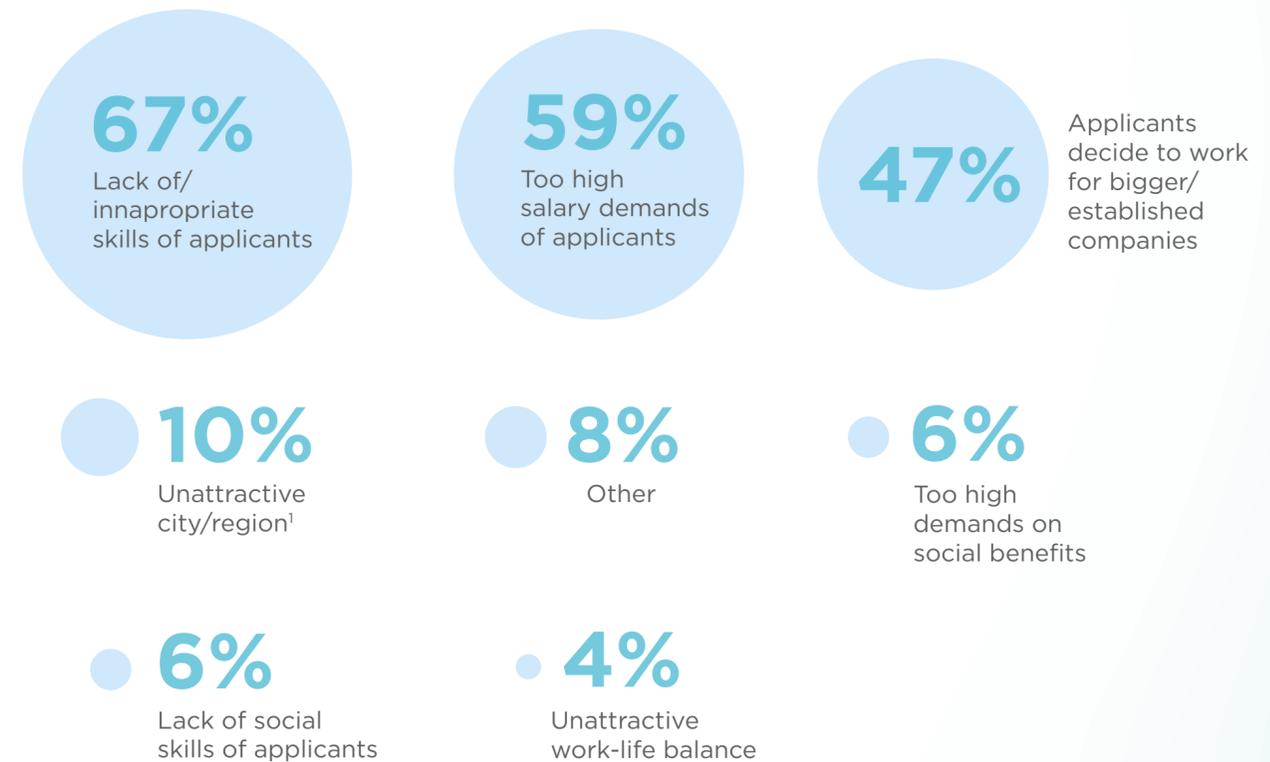
N=122

# Finding the right skills should be easier

HOW EASY OR DIFFICULT IS IT FOR YOUR COMPANY TO RECRUIT SUITABLY SKILLED AND QUALIFIED EMPLOYEES?



WHY IS RECRUITING SKILLED AND QUALIFIED EMPLOYEES DIFFICULT?



N=131

<sup>1</sup> Fora de Lisboa (no Centro ou Alentejo).

N=49

# Technology is key for startups business models

## A MIX OF DIGITAL AND PHYSICAL

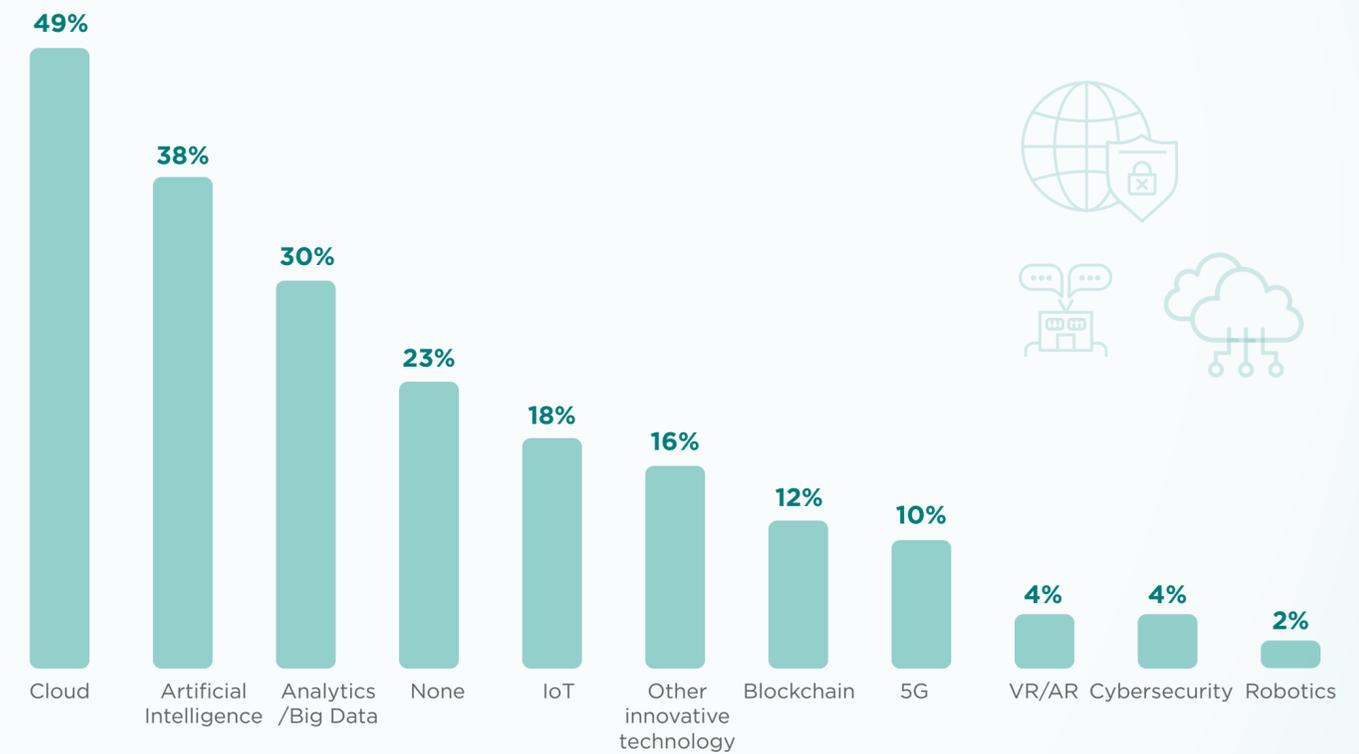
WHAT IS THE **TYPE OF BUSINESS MODEL** OF YOUR STARTUP?



N=138

## A VARIETY OF TECHNOLOGIES UNDERPINNING STARTUPS' BUSINESS MODELS

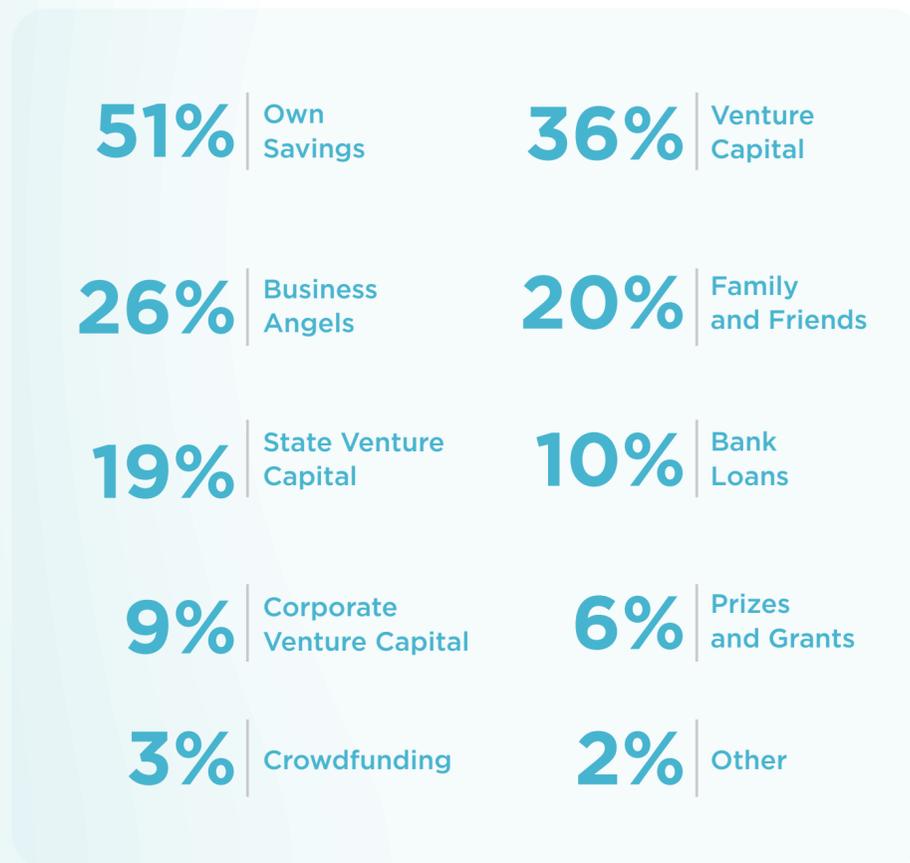
WHICH **INNOVATIVE TECHNOLOGIES** ARE PART OF YOUR STARTUP'S BUSINESS MODEL?



N=138

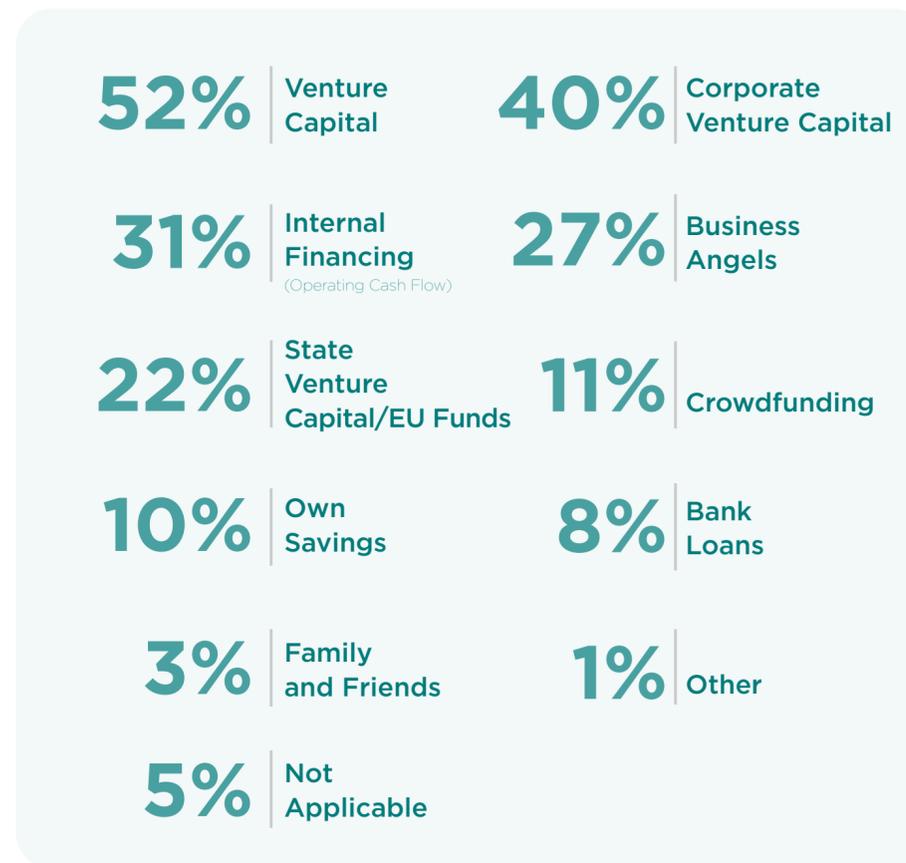
# Access to financing could be easier

WHAT TYPES OF FUNDING SOURCES SUPPORTED THE FOUNDING OF YOUR STARTUP?



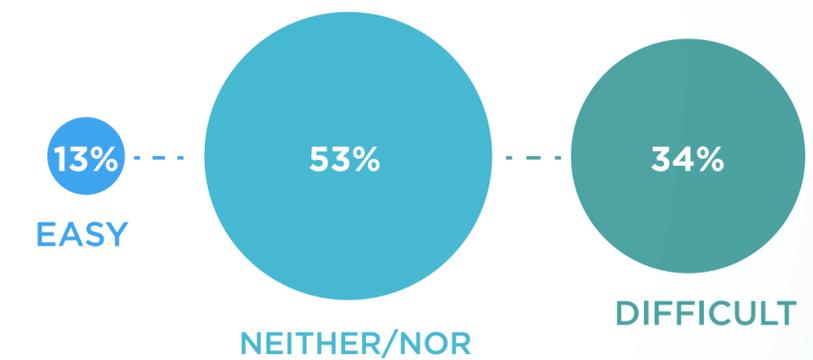
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WHAT KIND OF FUNDING SOURCES IS YOUR STARTUP LOOKING FOR IN THE NEAR FUTURE?



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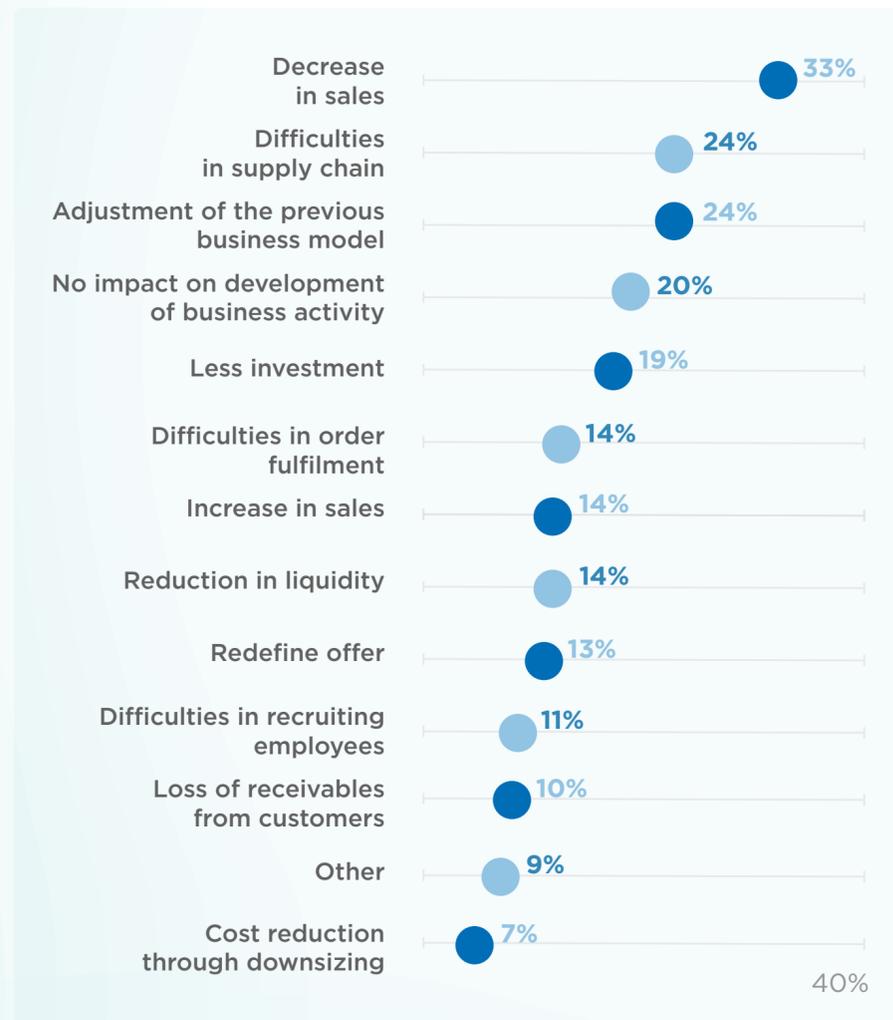
HOW WOULD YOU CLASSIFY YOUR COMPANY'S CURRENT ACCESS TO FINANCING?



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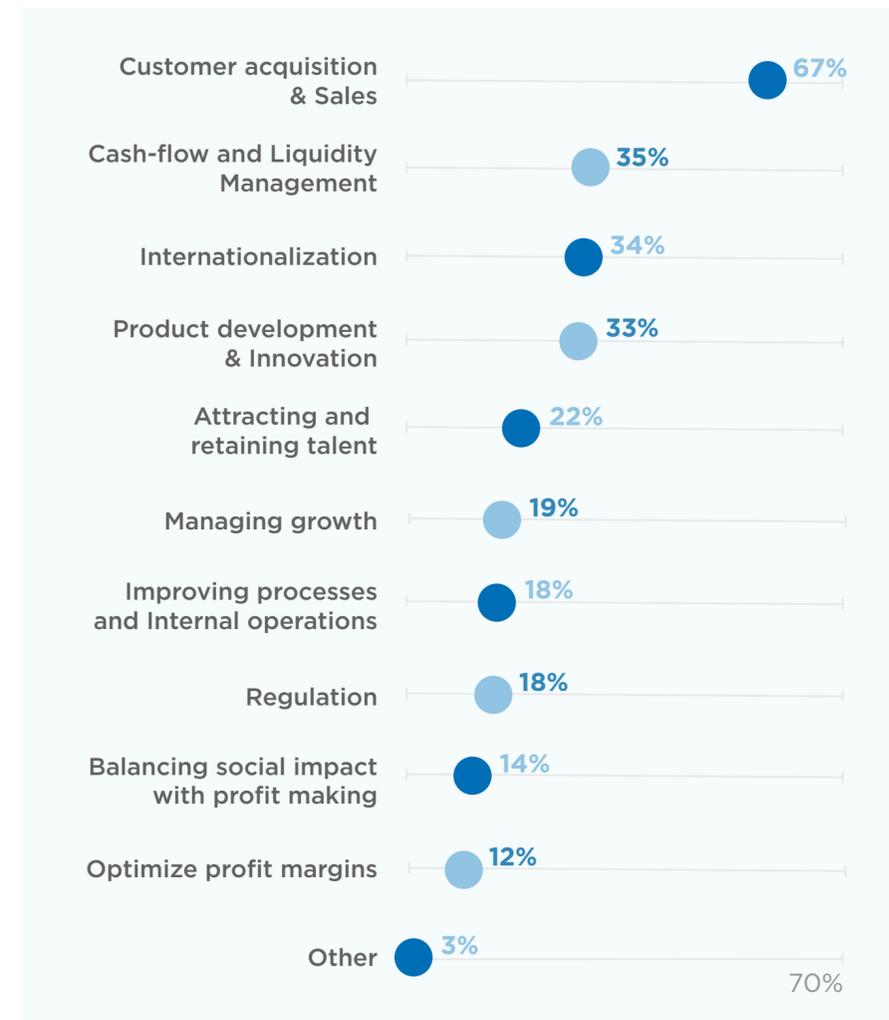
# On the top of the agenda: market penetration and financial capacity

WHAT WAS THE **IMPACT**  
OF THE **COVID** PANDEMIC CRISIS?



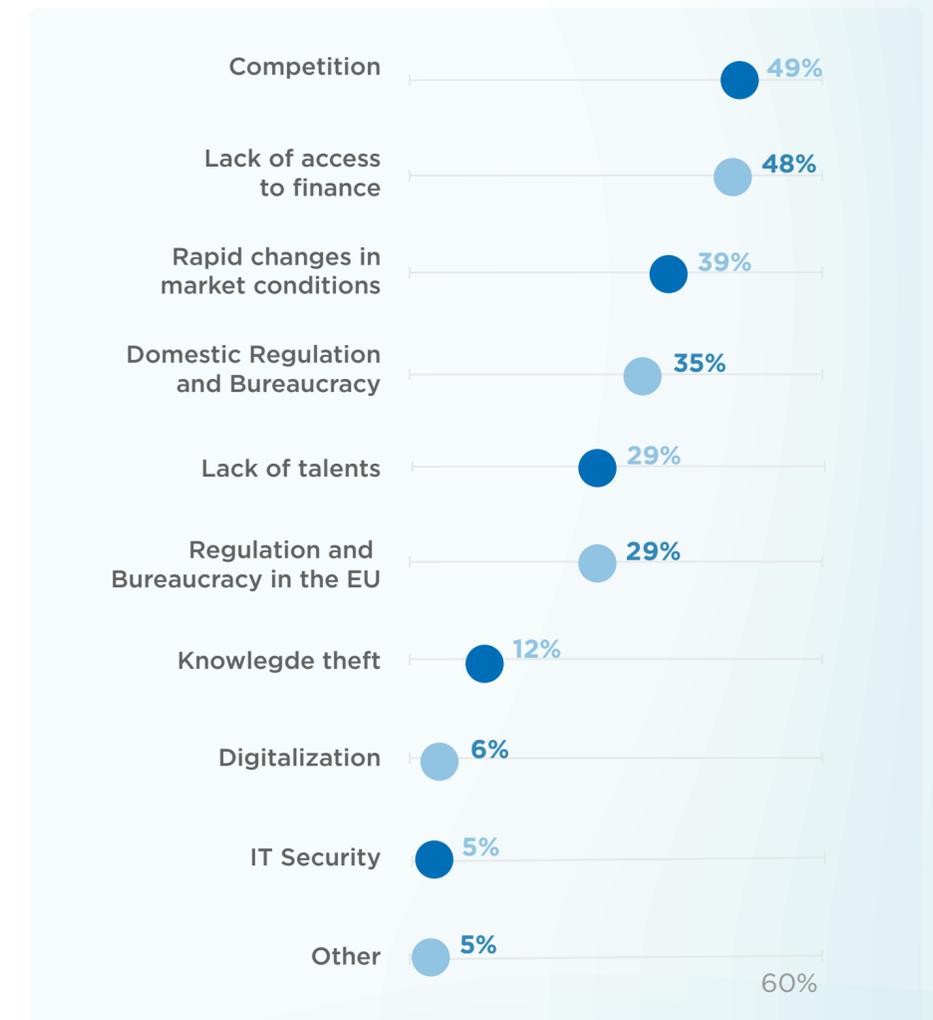
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WHAT ARE THE **3 MAIN CHALLENGES**  
FOR THE DEVELOPMENT OF YOUR STARTUP?



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WHAT ARE THE **3 MAJOR NOTICEABLE THREATS** TO  
THE FUTURE DEVELOPMENT OF YOUR COMPANY?

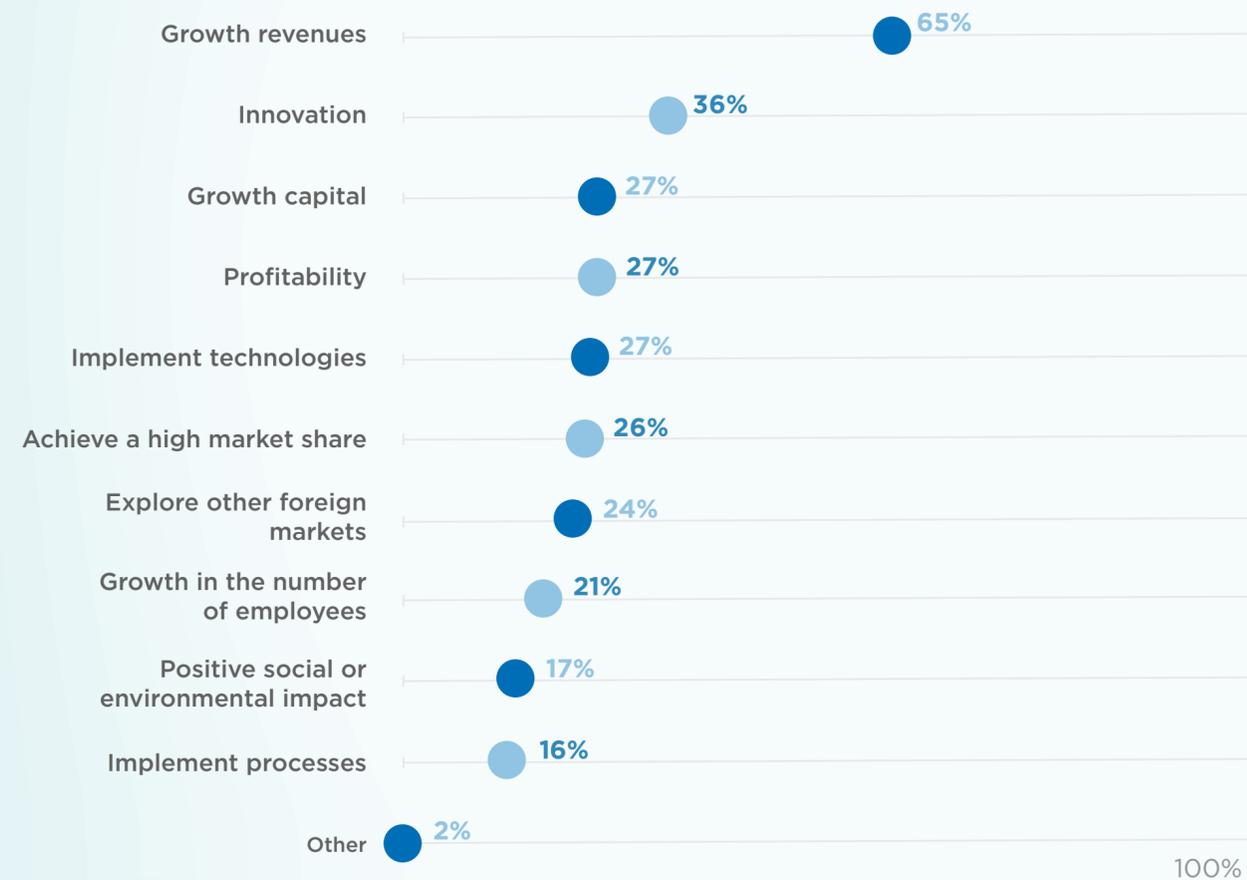


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# Some more conservative, some more ambitious

**FOCUS ON INCREASING REVENUE. INNOVATION COULD BE THE KEY.**

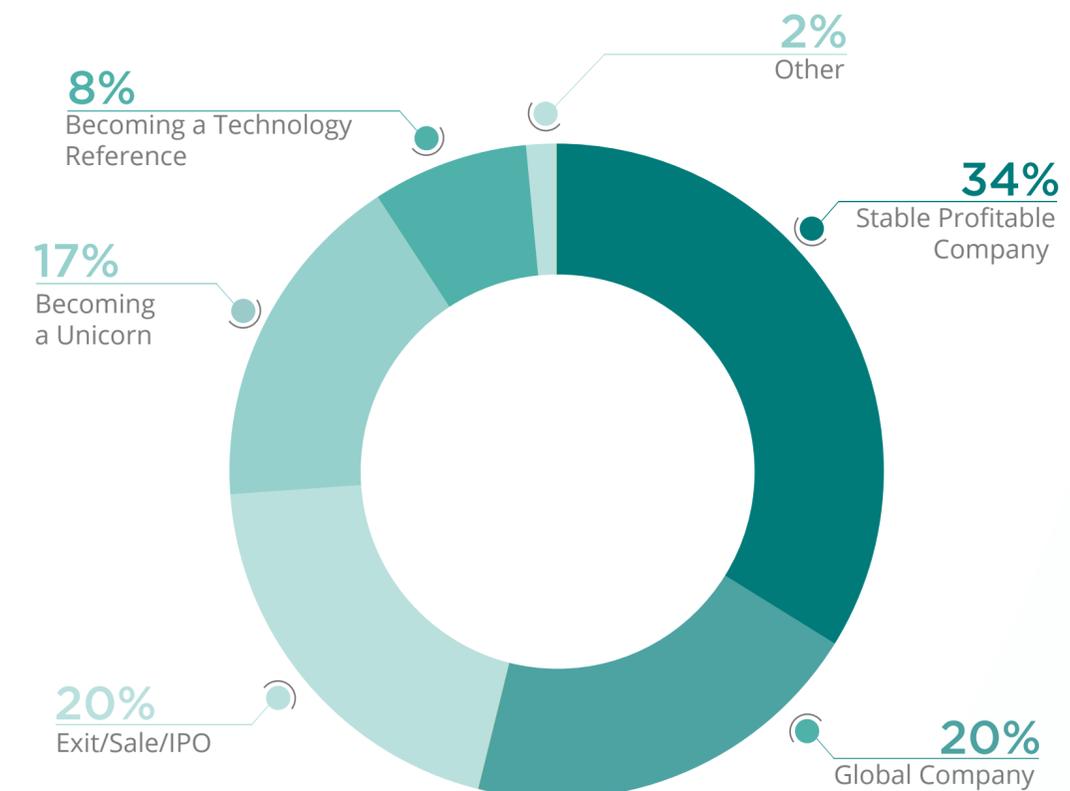
WHICH ARE YOUR **3 MAIN PRIORITIES**?



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**45% HAVE A MORE WIDE VISION: BEING GLOBAL, A UNICORN, A TECHNOLOGY REFERENCE**

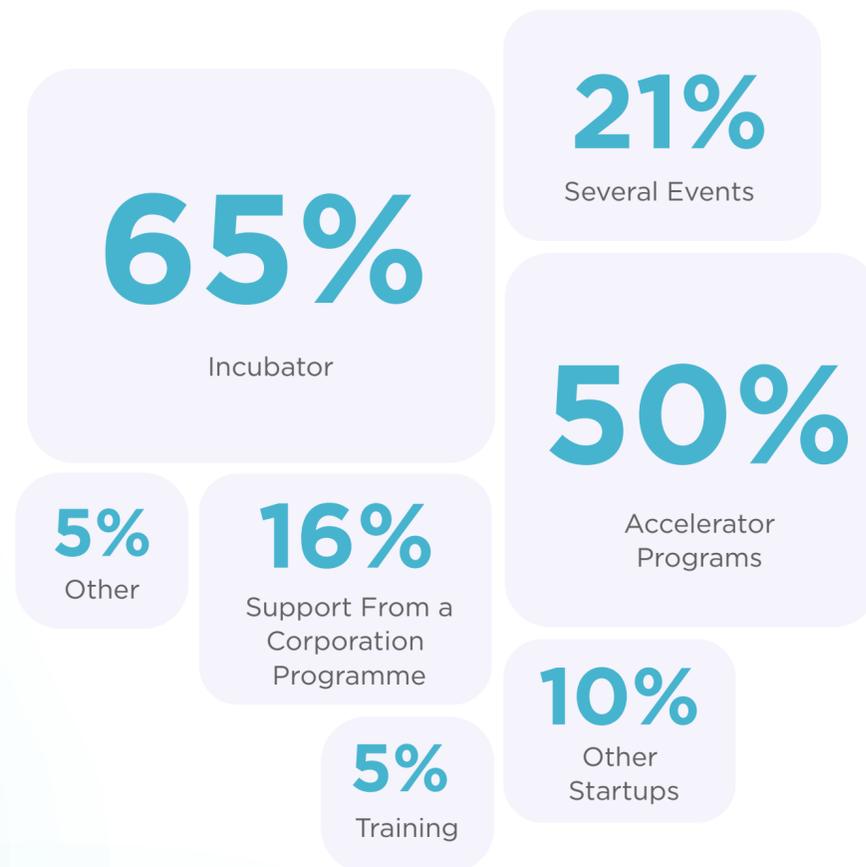
WHAT IS **YOUR VISION** FOR YOUR STARTUP?



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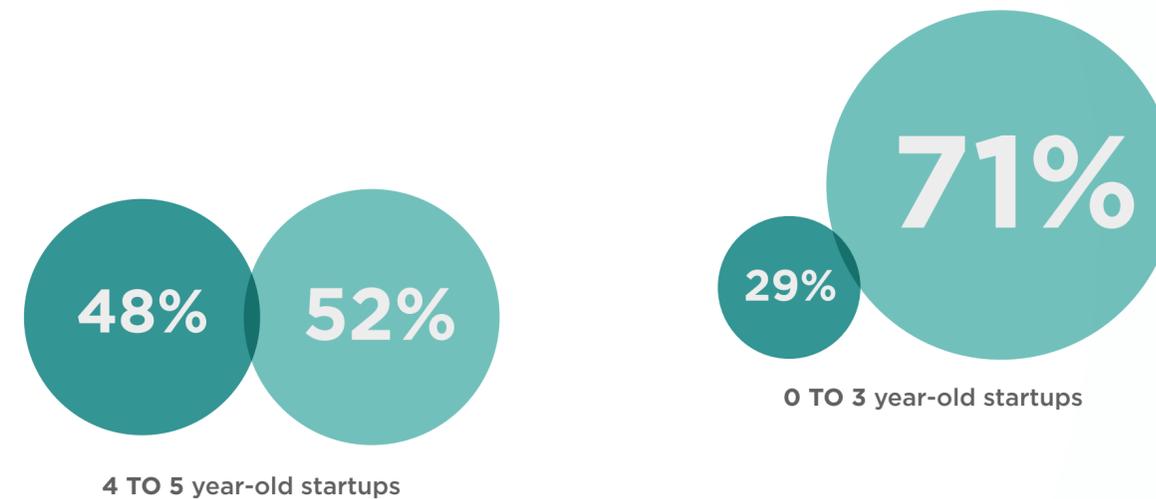
# Incubators and Accelerators are a popular support for startups

BESIDES FUNDING, WHICH SUPPORT DID YOU HAVE AT THE FOUNDATION AND **FIRST STEPS OF YOU STARTUP?**

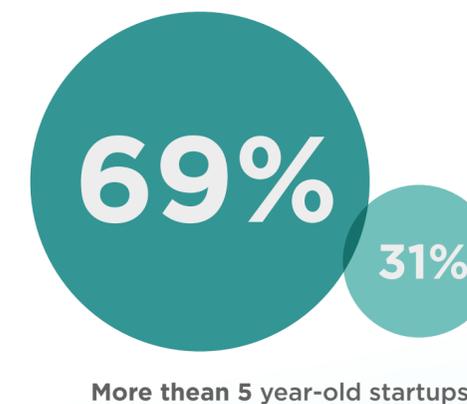


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ARE YOU **STILL** IN AN INCUBATOR?



● No ● Yes



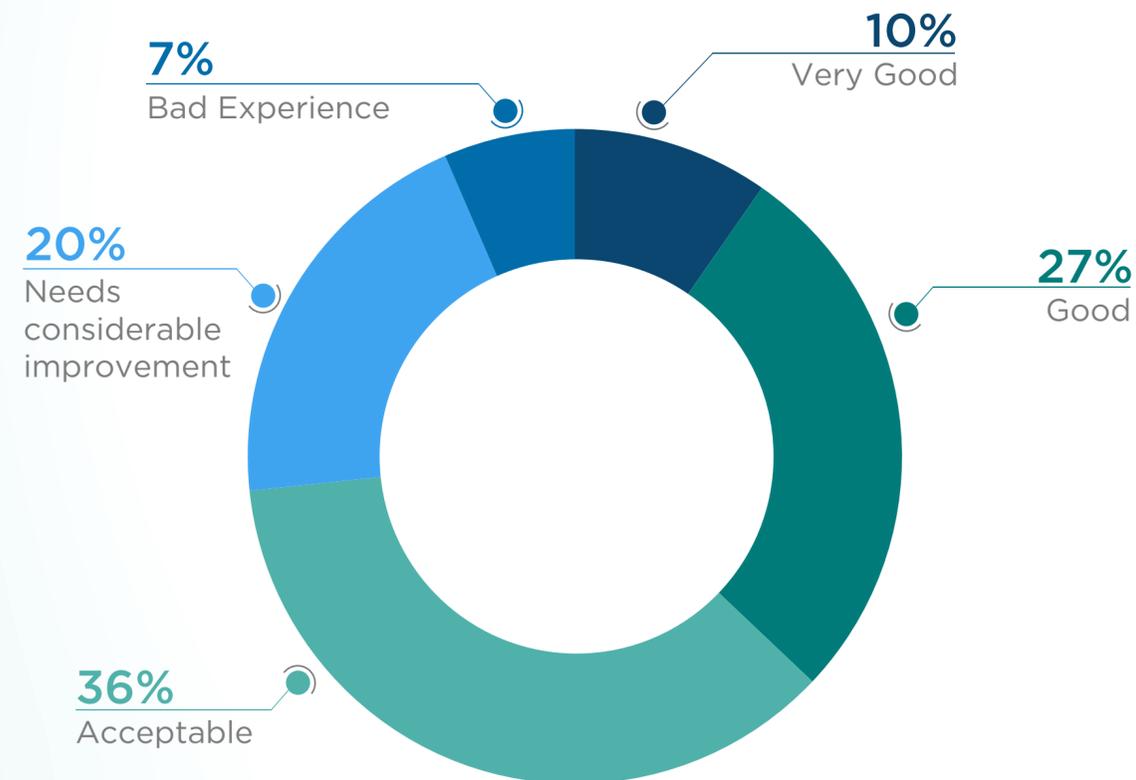
More than 5 year-old startups



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# Portugal is a good place to startup with some space for improvement

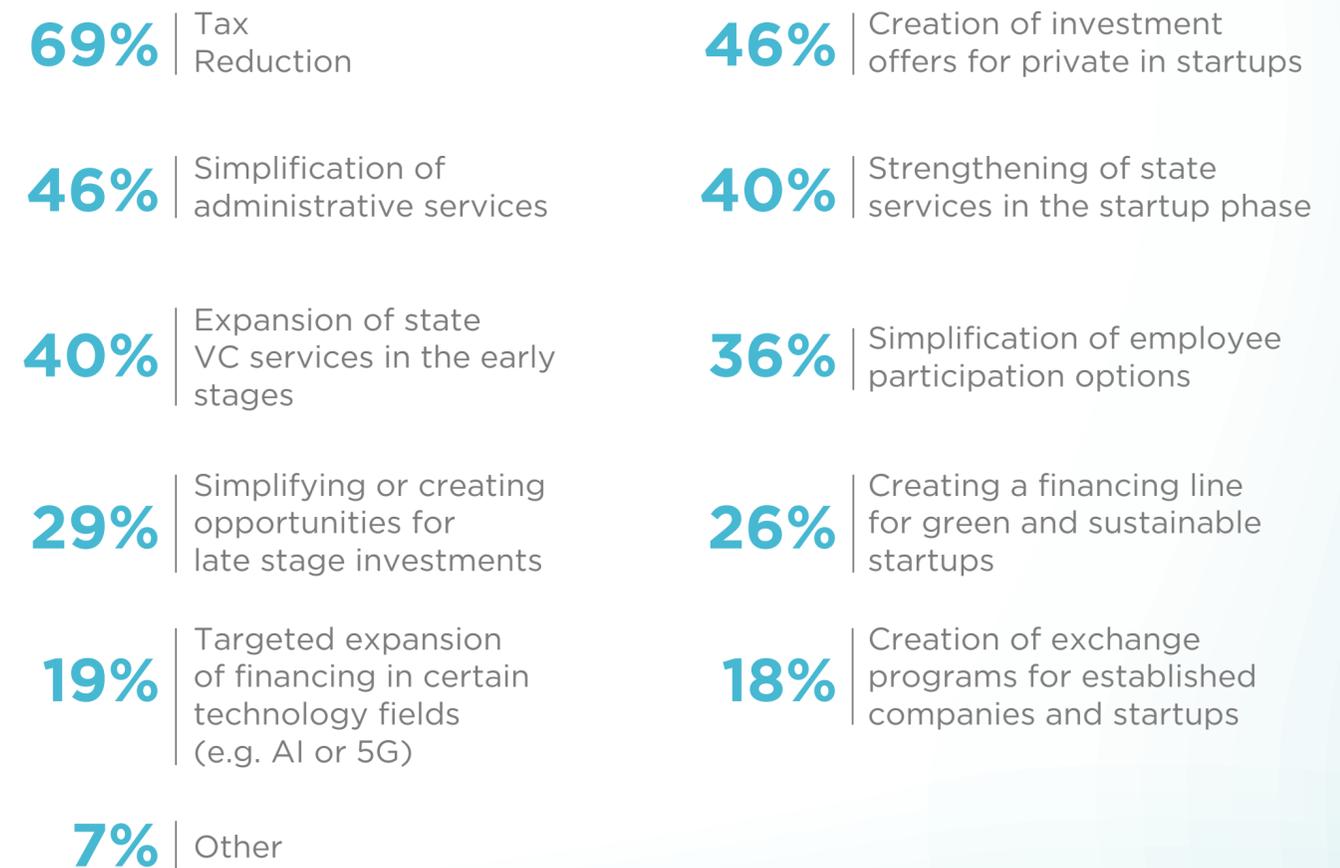
## 73% OF THE RESPONDENTS GIVE A POSITIVE NOTE TO PORTUGAL AS A PLACE TO STARTUP



N=124

## FOUNDERS RAISE THE FLAG OF TAX REDUCTION

WHAT KIND OF MEASURES DO YOU SUGGEST TO IMPROVE THE SITUATION OF STARTUPS?



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# The wisdom of the crowds

## the interviews

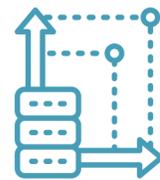
**We wish to thank all the people that have volunteered their time, experience and wisdom to do the round of interviews. Your contribution has been priceless!**

Alexandre Santos/BrightPixel, Antonio Portela/Bial, Ari Newman/Massive, Borja Ballesté/Inveready, Carlos Oliveira/Fundação José Neves, Cristina Fonseca/Talkdesk, Daniel Nascimento/EDP Ventures, Frederico Gonçalves/EDP Ventures, Frederico Serras Gago/IFD, Gonçalo Caseiro/INCM, Hélder Rosalino/Banco de Portugal, Hugo Augusto/SemapaNext, Ilya Velder/Basinghall Partners, João Amaral/Sonae, João Freire de Andrade/FintechHouse, João Ricardo Moreira/NOS, João Trigo da Roza/Associação Portuguesa de Business Angels, Joaquim Sérvulo Rodrigues/Armilar, Lina Wenner/FirstMinute Capital, Luisa Ribeiro Lopes / DNS.PT, Luis Manuel/EDP Ventures, Madalena Tomé/SIBS, Manuel Dias/Microsoft, Maria Inês Sequeira/INCM, Maria João Carioca/CGD, Mariana Costa/EDP Ventures, Miguel Fontes/Startup Lisboa, Miguel Paulo/ VR/AR Association, Paulo Rosado/Outsystems, Pedro Matias/ISQ, Stephan Morais/Indico Capital.

IDC has reached out to more than 30 stakeholders in the Portuguese entrepreneurial ecosystem and has asked them their opinion on three simple topics:



Evolution of the ecosystem



Perceived strengths and weaknesses, and eventual threats and opportunities



What if they had a magic wand

The main objective was to combine together the wisdom of the crowds, coming from all actors of the ecosystem and be able to derive a common set attributes and possible paths, moving forward.

Interviews were conducted in the March-May 2021 timeframe, amongst local unicorns, Portuguese investors, international investors (both abroad and turned residents), corporates, startups, enablers and policy makers, for a 360° vision and opinion.



To those that have volunteered their time and points of view, a very big thank you!

The aggregated result is what is being presented in this chapter.

# Portugal has covered so much ground...

**IT IS UNANIMOUS: PORTUGAL HAS COVERED SO MUCH GROUND IN THE PAST 5 TO 10 YEARS!**

The country has embraced a world of fast paced change, and has managed and known how to position itself as an emerging startup destination in the international scene:

Offering a unique combination of environmental, social, cultural and geographic factors.

A very pleasant location to live, raise a family and work, at a (still) very affordable value for money.

With a growing pool of specialized Talent.

With a robust and resilient entrepreneurship ecosystem, in a vibrating stage.

A Startup portfolio that has matured significantly in terms of quality.

Matched by local capital that has shown signs of increased sophistication.

Substantially international visibility and awareness.

And an interesting track record, now with 5 unicorns.



# A unique combination and balance of ingredients

## THE OVERALL PORTUGUESE CONTEXT IS ABSOLUTELY UNIQUE:

A modern, super international and cosmopolitan meeting point, intellectually and culturally interesting.

A stable democracy, providing a business friendly and safe environment.

Fully integrated in the European Single Market, with 450million consumers and and 22,5m Small and Medium Businesses.

In a not too big territory, where it's easy to get around and to cover.

With remarkably good infrastructure, with prevalent 4G communications practically everywhere.

Located right half way in between the USA, Latin America, and Africa.

In the same time zone as the UK.

5h30m away from New York.

A historic legacy of people that embrace other cultures and are used to dealing with, emigrating and doing business with other countries.

Great in welcoming foreigners (and where the Golden Visa program has gathered unanimous approval as a key facilitator).

Where people genuinely like to help and are quite at ease with using other languages.

It is then no surprise the country's connections to the rest of the world, with privileged bridges to relevant markets like Brazil, Angola and all other Portuguese speaking countries.

Where the weather is great, the gastronomy and wine are nice, with plenty of outdoor leisure activities to choose from.

All in all providing a very balanced and nice place to live and raise a family, at a very efficient value for money.

## Great Work!



The proverbial local capacity to improvise and find unconventional solutions probably also play a role in terms of originality of some of the startups, with plenty of good ideas and originality.

A weakness turned strength, as the local market is quite small, it forces nascent startups to address international markets by design. This is an important differentiator when looking at other ecosystems with bigger critical masses, where most often the internalization part comes quite later in the path. It is usually more efficient to build for the world from the very beginning, with global product validation.

This additional constraint probably has some effect in the overall number of startups. An additional level of complexity at the very early stage could filter the overall number of startups, However, the ones that have passed the test are more curated and positively compare to other ecosystems.

Also worthwhile to mention is the perception on what are the top sectors for which the country is known for:

- There's an important bias to B2B, versus B2C. Probably the limited size of the local consumer market again plays here a big role.

- Tech and Deeptech is mostly the first sector that comes to mind, directly coupled to the very good available engineering talent.
- Fintech is also referenced, as projects like the FintechHouse, which has brought together key players in the area (not only startups, but also banks, service providers and regulators) and consistently promoted the initiative, have certainly helped in bringing together the require critical mass for ignition.
- Worth mentioning the Bio/Healthcare area, with some interesting use cases of R&D connections between the Academy and private sector.
- What the country is not known for is industrial, capital intensive, hardware driven projects. As Portugal's economic fabric is not very industry heavy, it is not a surprise, though there is an interesting offer around Industrial SaaS to streamline and optimize processes, following the tech and software bias.
- Other sectors also surface, like tourism, again probably following the big boom that the country experienced in the pre-pandemic era.
- A final mention to Impact, with the perception that the country has the potential be an interesting reference, in an area that is experiencing exponential growth, led by the USA, UK and Nordics.

Fundamental to the mix is the available **Talent**:

- With more and more people that actually want to be entrepreneurs.
- Excellent technical and engineering talent, that compares very well to the international standard.
- And a word of praise for the Academy is certainly due here, which is making steps in the right direction, both in training people with the required hard skills, but also on the “how to be an entrepreneur” part.
- A legal labour framework that certainly has improvement points, but is not the worst in Europe.
- And all of this at a competitive cost.



## And Yet More Great Work!

The country also has an incredible potential to attract international **talent**, which has been happening on a consistent basis, and is no surprise, given the unique context and atmosphere.

All this talent is supported by a widespread network of competent accelerators and incubators in early stage, mostly providing the first steps in the startup development process. An interesting validation point is TechStars' program, which has actually run in Portugal, but for example, never run in Spain.

In terms of **Capital**, the progress demonstrated is very relevant:

- A professional community of local investors, quite well connected to the international capital ecosystem, and mostly with a hands on approach to their portfolios.
- With some financial muscle behind them, allowing already some follow-on series.
- Operating in a local market where startup valuations are significantly lower when compared to other hubs.

- And with an outstanding Capital Efficiency Rate, where each € put to work in Portugal generates: significant more output, in shorter times, with higher growth rates, and a track record of 4 unicorns.
- Due to, again: lower valuations; good technical skills; lower cost of labour; built for international markets by design.

The country has also known how to communicate well this “package”, raising international awareness on its unique value proposition:

- With a consistent branding effort, highlighting the quality of life and all that is available.
- Through the recent boom in tourism in the pre-Covid area, which has attracted many international visitors.
- And the WebSummit, which is widely referenced as the turning point in terms of putting Portugal on the entrepreneurship map, bringing together a significant sample of this universe into one single location, at a specific point in time.

## And There is Room for Improvement (Culture)

There's always the flipside of the coin, and it is really important to be able to look in the mirror and spot the areas that need to be improved.

To begin with, and from the **cultural** point of view:

- Starting up is a very difficult business, requiring a very concrete skillset and personality, as the path is long, hard and mostly uphill and though not everybody is cut to be an entrepreneur, there are some relevant traits of character that facilitate the journey and help keeping motivation:
  - Meritocracy,
  - Ambition,
  - Desire to change the world,
  - Thinking big,
  - An appetite for risk,
  - Orientation for the customer's pain (not just the technology),
  - And a bias for speed, are real advantages, and therefore should be developed since early age.

- Dealing with failure, and how society looks at it is also really important. Failing (with integrity) is valuable experience, and it is a plus when looking for funding.
- Focus and specialization, as opposed to spray and pray approaches, are also key, as they allow for concentrating resources and energy, therefore increasing critical mass and success probabilities.
- Again, the examples of what has been done around clusters like Fintech and Healthcare illustrate the concept.
- As B2C is a difficult play to execute in a small market like Portugal, there is a natural bias towards B2B, and therefore supporting entities and catalysts should offer specialized support.
- As a probable result of the good engineering skills, the ecosystem is quite competent and prolific on deep tech, which is a very good area to lead with. However, Deep Tech takes quite some time to execute, and that imposes constraints in terms of the type of investors and patient capital required. This point must be clearly understood and addressed by all stakeholders, as the returns can be outstanding, but time is a key ingredient of the equation.



## And There is Room for Improvement (Talent)

**Talent** is also a key ingredient in the mix, and the technical and engineering quality of its people is not up for discussion. However:

- The ecosystem needs a lot more! The country really needs to promote young people's appetite for technical careers, as scarcity drains up the market, slows things down and drives up prices, all unwanted consequences.
- Academia really need to take up the challenge of producing vast quantities of very skilled professionals, in sync with tomorrow's market requirements, trends and demands. There's here an implicit requirement for a very strong connection to all the other stakeholders.
- If technical talent is basically a question of increasing the number, other disciplines don't rank as well. There is a lack of sales, marketing and business skills.
- Depending on the startup vertical, this lack of skills can be more noted. In technology, not as much, but for example in the Bio/Healthcare space it is quite common to see startups extremely well prepared from the scientific point of view and then with little business acumen.
- These types of skills are especially critical in scaling up phases in international enterprise environments. There is not so much local experience available, and this type of talent must be imported and incentivized to come and stay.
- Seniority is also a side topic to the previous point - these skills are not easily transferable and are usually learnt by doing. Hence the critical requirement to have senior and knowledgeable people, widely available to train others.
- If some of these senior people are Portuguese that have worked abroad and now are coming back, even better.
- The existent special tax regime for non-habitual residents is a key instrument in making sure this talent wants to come and work in the country.



## And There is Room for Improvement (Corporate)

There's also some work to do in terms of the **Corporate** world and its alignment with the startup part of the ecosystem:

- A common note has been the different priorities of both parties, and a need for better understanding of each other's expectations.
- The ability to establish win-win partnerships that take into account the specific aspects of each side is critical. An effort from corporate world to understand and foster to more “fragile” startups could really make a difference in the development of the ecosystem.
- Corporate world can usually use a helping hand in innovation, and startups are always eager to get a customer or a distribution channel. This calls for a specific skillset on both sides, and for a common ground where this type of showcasing and get to know the other can take place.
- Another area where we can already see some cooperation is when large corporates nearshore some functions to the country, typically connected to technology and sometimes innovation. In order to maximize the value, it is key that these operations are decision centres, not purely execution centres, that end up having a cost bias and drain talent from the market.



## And there is room for improvement (Startups)

On the **Startup** side, and as a relatively young ecosystem, there are also some growth pains:

- Local entrepreneurs are mostly (still) rookies, as the rate of experienced ones is quite small. Seniority can be an issue. Not only in terms of operating experience, know-how and governance, but also as it can bring some friction when dealing with process and structure of more mature international investors.
- Nothing that can't be fixed through enablement (a role here to be played by incubators and accelerators), or by fostering 2nd time entrepreneurs, that already have gone through the drill.
- Some consistency to the startup portfolio also surfaces in our interviews, as some investors point some variances in quality, or the existence of some “zombies” (that go from grant to grant, barely surviving, without significant progress).
- A smaller startup valuation, which drives appetite from investors through increased capital efficiencies, also has important downsides.
- Especially when most entrepreneurs cannot afford to live without pay, or have not been able to save enough to do it.

- Less money flowing in to startups means smaller runways, which require more operational and cashflow management, and can seriously limit growth rates, or even prevent completing first prototypes.
- Another typical effect, actually a sign of early ecosystems, that fortunately happens less and less, is when first investors end up owning significant equity in startups, thus preventing further rounds and sentencing companies to a slow death. Founders also end up significantly diluted, thus reducing their upside and ability to invest back in the ecosystem.



## And There is Room for Improvement (Capital)

Let's now address **Capital**, which has also come a long way:

- Local Capital supply has increased, and local players have teamed up with international operators in order to co-invest, open other markets, increase exit probabilities and mitigate risk. A normal step in a developing ecosystem, where valuations and tickets are on the rise.
- Investor sophistication has also increased significantly in the past years, however there is still room for improvement in terms of enablement, specialization, refinement in the analysis, sector coverage, and, of course, more capital to deploy.
- Sector wise, there is still a fair focus on technology, but others (like Bio and Healthcare) are also equally interesting, and excellent bets. Impact in particular is underfunded, and given its positioning as an emerging trend should be on the radar of every investor.
- A common phenomena in more mature ecosystems is when successful entrepreneurs turn into investors. This generates a very powerful virtuous circle, as people with hands-on experience and the necessary resources start coaching startups and driving exponential growth. We are yet to see this happening in a consistent way.
- A common note that surfaces is the existence of several blind spots in the capital chain.
  - Pre-seed is one of them.
    - The very early pre-seed stage, where typically Friends, Family & Fools write the first 100k check, is a very difficult one. As professional investors find it too risky, this role is usually left to the mentioned 3 FFFs (or the eventual small Business Angel), but a crunched middle class, much punished by the 2008 financial crisis and under heavy tax rates is seldom able to jump in.
    - Business Angels play a critical role here. Enabling and professionalizing them is fundamental so that the rest of the startup process can flow freely. A tax policy nudge, similar to what happens in other ecosystems (UK comes to mind), could also be a considerable incentive.
  - Seed and Series A are quite well covered, it's an investors' sweet spot, where the local players concentrate their efforts.
  - Following Series (B and up), require substantially more money, as follow on rounds and scaling to international markets are capital intensive stages. Local investors start to have less fire power.
  - Local Institutionals (big players, pension funds and all) also have little incentive to address this asset class – again a tax nudge could easy drive substantial inflows into the ecosystem.

- There is then this effect of heavy bias in the first stages, with next rounds being done by international investors, which come very early into the game. As an example, in Spain, internationals usually only appear in series B and after.
- This event most often forces head-offices and control to move elsewhere. It then poses the challenge of how to locally capture value, and keep businesses and taxes in the ecosystem. Israel has a comparable situation, and has addressed it by focusing in the early stage and integrating the rest with other ecosystems' value chains.
- Public money also has a role to play, and the common opinion is that it should cover the blind spots (such as pre-seed) and simply follow professional operators as a co-investor.
- The capital industry also thrives on track record, and though there are quite some local success stories, they need to be constantly communicated, leveraging returns, references and potential unicorns.



## And There is Room for Improvement (Policy)

**Policy** is also an obvious key piece of the puzzle, with a few unanimous comments:

- Deregulation is fundamental. A simple, stable, predictable and long term legal framework is the basis of a successful ecosystem. There is still a journey to be made here.
- Complicated public services and bureaucracy can be serious hindrances to development. Service must treat citizens and business as customers, be optimized for speed, simplicity, with a sense of urgency and designed to minimize friction and number of iterations.
- A very clear, simple and quick Judicial system is also a cornerstone of business practices. Still work in progress here.

Careful tax incentives to key stakeholders

- The absence of a tax incentive for labour, failing to recognize that skilled work is well paid, easily drives away talent to other more favourable regimes. It quickly creates a downwards spiral, as tax collection falls as people run away to other jurisdictions, leaving a gap in local talent's supply.
- Investing is a risky business, with significant upside in terms of value creation. Again, a tax policy that incentivizes money to

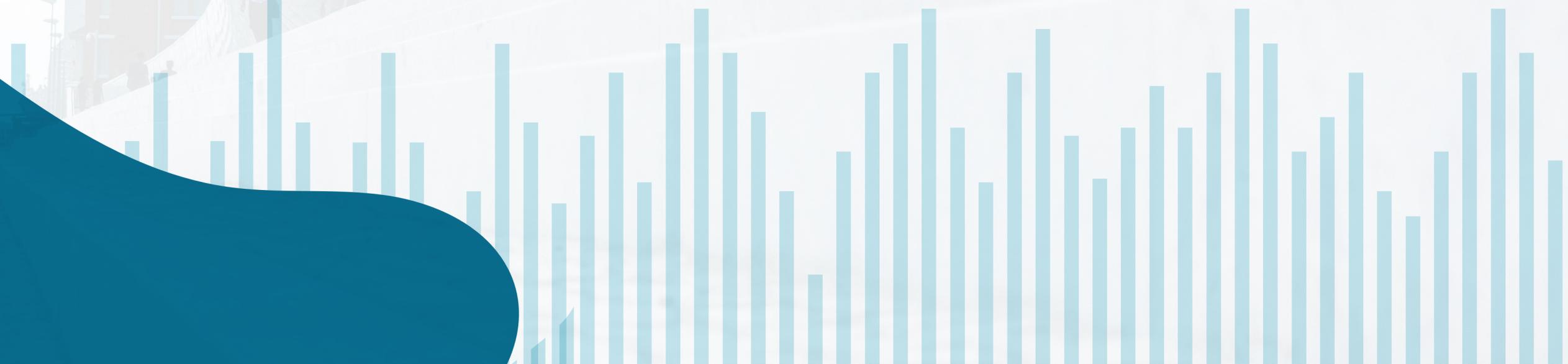
flow into the startup ecosystem along its various stages (pre-seed, seed and scaling) can drive significant returns for the state.

And, worthy of mention:

- On the Enablement side, access to best in class practices is a powerful catalyst. The local ecosystem seems to have the regional coverage worked out, through incubators and accelerators. Now it's time to go for the next step, in terms of content and synergies with world leaders.
- On the cross collaboration side, the triangle between Academia, both as a supplier of skill and as a producer of R&D to be transferred, startups, and corporates, is one that needs constant attention and care. It is never enough to reinforce these key relationships.
- Finally, constant communication is the not so well kept secret of success. If the various editions of the WebSummit have decisively contributed to put the ecosystem on the radar, a lot more must be done on a daily basis, driving the international agenda for several sectors, showcasing what is being done and the value proposition.



# Emerging Trends



# The connected world

In today's world, the need for connectivity has become more important than ever. In these uncertain times the future of connectivity is unfolding as consumers and organizations recognize the value it provides them with by allowing them to remain connected, informed, safe, productive, and entertained.

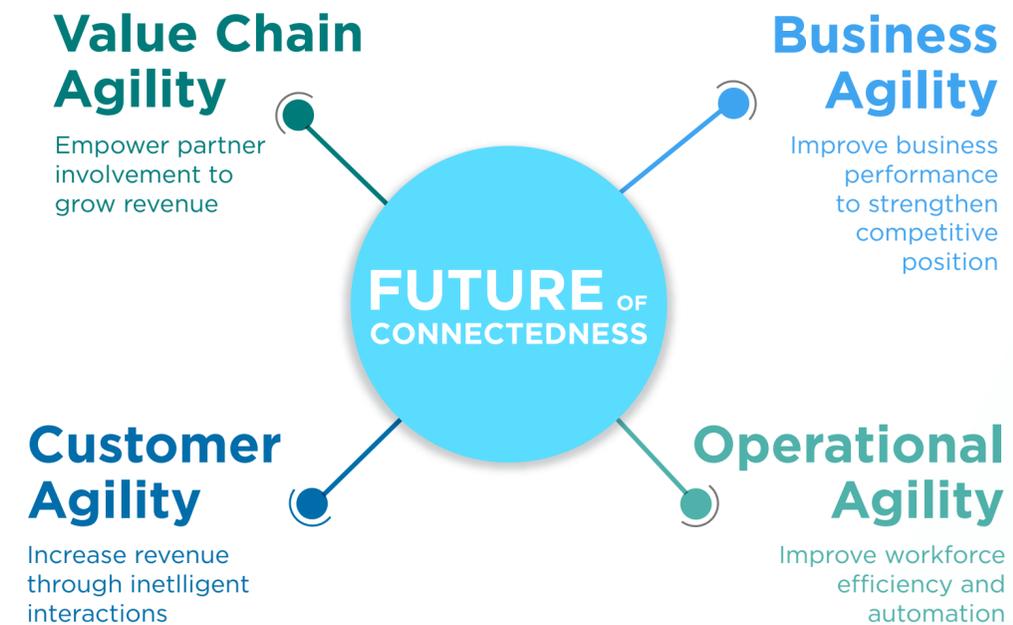
**Connectivity is now recognized as one of the top three strategic elements in the digital transformation.**

Connectivity enables the timely movement of data across people, things, applications, and processes thus creating seamless experiences.

Connectedness also brings new levels of agility to the enterprise. There are four different elements of agility. They should be evident in the way business processes become more efficient, workforces more empowered, customer interactions more intelligently handled, and an entire value chain operates

seamlessly. This will result in more secure, more intelligent, and automated data flows, real-time system interactions; more dynamic operational processes; and stronger employee, customer, and partner relationships.

AGILITY AS AN OUTCOME — THE FOUR BUSINESS BENEFITS OF CONNECTEDNESS



# Customers expect a higher level of experience

## ATTRACTING AND KEEPING THE CUSTOMER OF THE FUTURE:

### Trust

There is no path to success for a brand that does not go through trust. Trust is earned by doing the right thing, in the right way, at the right time, and doing it consistently.

### Competence

One of the ways an organization builds up trust is through consistently delivering on what the brand says and promises. This means envisioning, building, marketing, selling, providing, and servicing a quality product.

### Integrity

Today's customers want to align themselves with brands that share values similar to their own. They want to buy from a company that consistently does the right thing even when it isn't the most profitable.

### Empathy

In the end, trust, competence, and integrity are all key elements to driving empathy between the brand and the customer. It means not only understanding what the customer wants but caring about him too.

Conversations are an exchange between the brand and the customer that always feels human, even when driven by technology

The journey represents the various paths to purchase that need to be easy for the customer to navigate



Satisfaction reflects how the customer feels about an experience.

Experiences are created to match the context of the interaction to what the company knows about the customer.

## UNDERSTANDING CUSTOMER EXPECTATIONS IS KEY

# Enterprises are broadening their definitions of value



## THE NEW BUSINESS VALUE

There is an increasing scrutiny as the public takes a closer look at the broader impact of the businesses it engages with. Companies need to demonstrate that they can be trusted in a holistic way considering brand image, sustainability, diversity, and ecosystem reputation. A new style of leadership — more human and empathic — is needed.

## THE ACCELERATED DIGITAL DESTINY

With the pandemic crisis, the digital transformation of many organizations has accelerated, triggered by different needs, including the need to close digital gaps, support new requirements, or capture market shares. As a result, the economy will further ramp up its digital destiny. Digital initiatives will continue to grow, as technology is critical to respond, adapt, and capture new opportunities.

# Building relationships within and across industries

Companies across digitally transformed industries have changed their relationships based on traditional transactional approaches and have started to build ecosystems of partners that help expedite the flow of money, goods, people, and services and innovate rapidly — since no organization can achieve digital innovation on its own.

Industry ecosystems include collaboration among industry participants, between participants from various industries as well as with the public sector. While this cross-industry collaboration has been present in industries such as the automotive, this trend has accelerated during the pandemic in industries such as food and beverage, apparel and footwear, life sciences, and medical devices providing rapid innovation, knowledge sharing, and operational support.

Key to success for the ecosystem are speed, transparency, and flexibility across a complex portfolio of physical and digital (software) products and services thus enabling seamless collaboration and innovation between ecosystem participants.

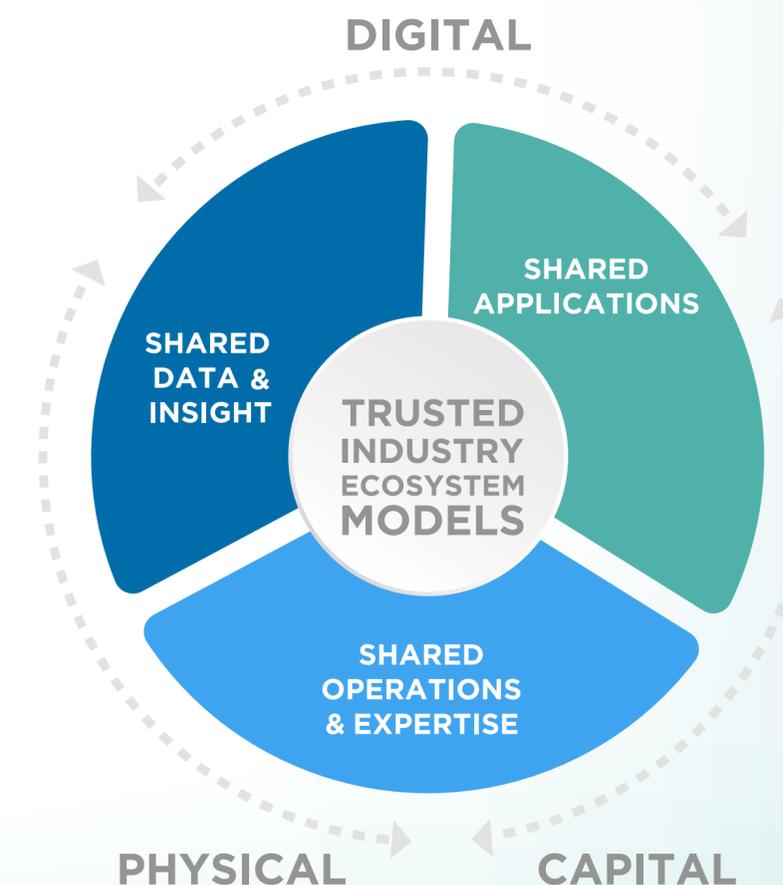
The segments of sharing across an industry ecosystem encompass the following:

- Sharing data and insights to ensure security, reduction of fraud, functional safety and security, or new, mission-critical innovations, as well as cross-ecosystem reporting such as for sustainability.
- Sharing new applications to enable data and insights, improved operational efficiency, or better customer experience.
- Sharing operations and expertise so that organizations can scale up and down their capability and capacity for new products and services to meet market, customer, and consumer needs.

**Descriptive:** Places, people, organizations, and things  
**Environmental and societal:** Climate, economics, and regulation  
**Interaction and performance:** Sourcing and selling, relationships, and metrics

**Industry specific process:** Innovation, operation, and customer  
**Regulatory compliance:** Knowledge, validation, and reporting  
**Digital joint venture:** Operations, safety, and service

**Supply chain:** Demand, resources, and logistics  
**Service:** Delivery, customer support, and maintenance  
**Innovation:** Ideation, change, and resources



# Preassures are driving sustainability as a business priority

The United Nations established 17 Sustainable Development Goals, as part of the 2030 Agenda for Sustainable Development, as a universal call to action to end poverty, protect the planet, and improve the lives and prospects of everyone, everywhere.



Source: United Nations

## Portugal has had a pioneering role in this area:

- Circular Economy Action Plan set out the guidelines for Portugal to implement the transition to an economy that promotes the efficient and productive use of resources.
- Roadmap for Carbon Neutrality 2050 was set to reduce greenhouse gas emissions, so that the balance between emissions and removals from the atmosphere will be zero by 2050, while also allowing the main vectors of decarbonisation to be identified.
- National Energy and Climate Plan established national goals for renewable energy and energy efficiency and the reduction of greenhouse gas emissions, as well as the steps to be taken towards decarbonisation of society over the next decade.

## SUSTAINABILITY DRIVERS FOR BUSINESSES

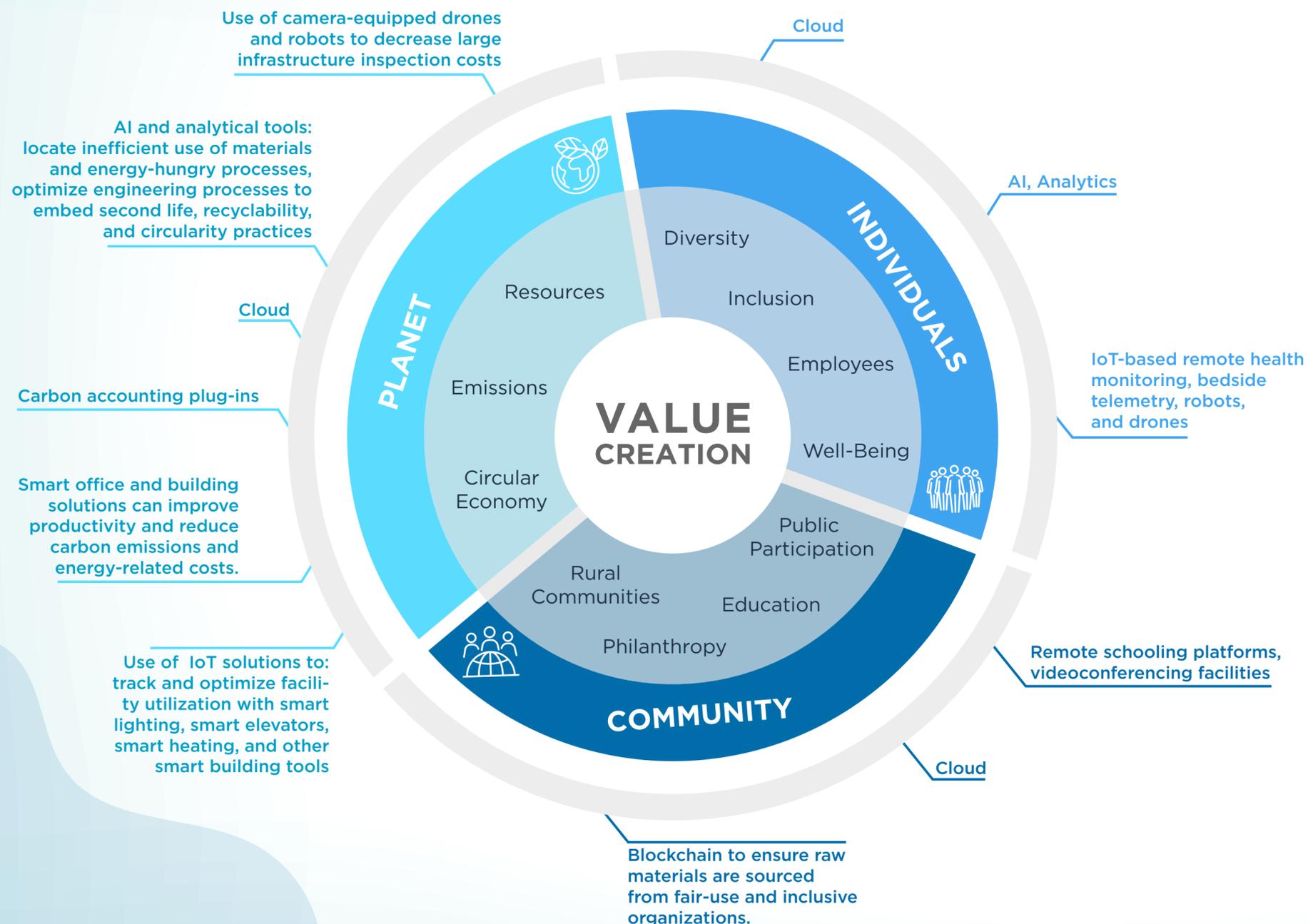


## Green business is good business

- **Sustainability has become a legitimate business priority:** Sustainability has matured from being a “feel-good factor” into a legitimate business factor. Almost two-thirds of European businesses pointed out sustainability as a very or extremely important business priority for 2020<sup>1</sup>.
- **Technology is the means to meet sustainability KPIs:** Organizations deploying technologies to improve sustainability KPIs as part of their modernization / transformation initiatives invest significantly more into modern technologies.
- **Technology suppliers play a crucial role:** technology providers, are considered important factors to meet current sustainability challenges.
- Causality between sustainability targeted governance/investments AND strong financial performance has been recognized.

# Sustainability goals are a fertile ground for start-up ideas

TECHNOLOGY AS PART OF THE SOLUTION



## A key unifier for start-ups Europewide is: Purpose

Over the past decade, there has been a growing desire by the venture capital community and consumers to support start-ups that go beyond increasing their upshot, and focus on wider societal needs: environmental sustainability, diversity, equality, and many other issues.

The growing VC investment in "tech for good" startups demonstrates a growing desire to assess the long-term impact of start-ups on the societal and environmental level in Europe.

There is a broader recognition by the public that businesses can positively transform society and take responsibility for issues beyond their aims.

In the areas of healthcare, workspace, food delivery are several examples of start-ups emerging to respond to changes occurring in society needs.

# Digital transformation predictions

**Accelerated Dx Investments Create Economic Gravity.** The economy will continue to pursue its digital destiny with 65% of the global GDP digitalized by 2022 and will drive over \$6.8 trillion of direct DX investments in 2020–2023.

**Digital organization structures and road maps will mature.** By 2023, 75% of the organizations will have comprehensive digital transformation implementation road maps, as compared to today’s percentage of 27%. This will result in an effective transformation across all facets of business and society.

**Digital management systems will mature.** By 2023, 60% of the leaders of the G2000 organizations will have shifted their management orientation from processes to outcomes, establishing more agile, innovative, and empathetic operating models.

**A “digital-first” approach.** While “digital first” prevails in every experience, 60% of enterprises will invest heavily in digitalizing employee experience in 2021, transforming the relationship between employers and employees.

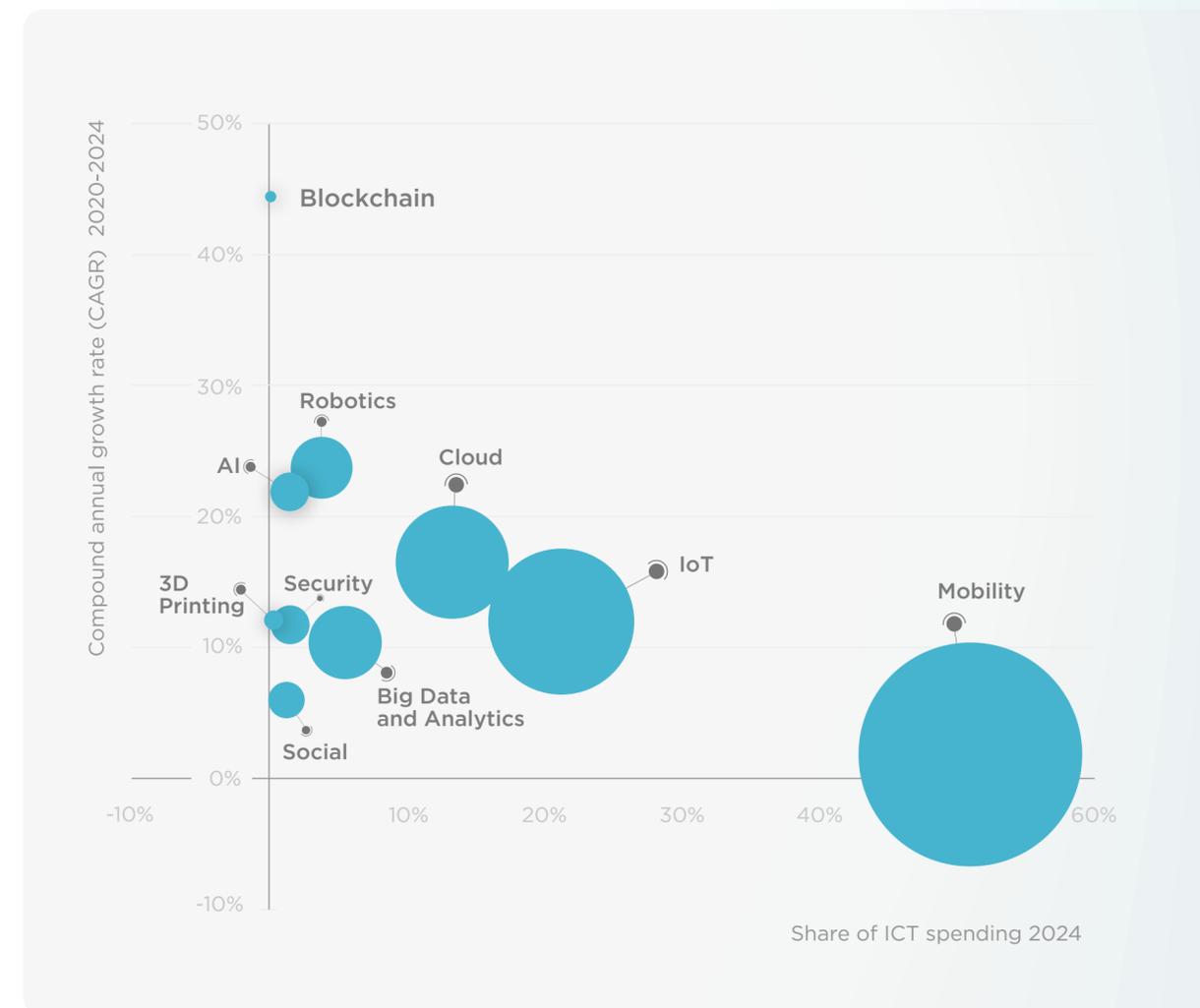
**Business model reinvention.** By 2021, at least 30% of the organizations will accelerate innovation to support the reinvention of business and operating models.

**Sustainability and DX.** By 2022, most companies will achieve greater value by combining digital and sustainability, giving rise to digitally-driven and sustainably-enabled projects as the de facto standard.

**Accelerating digital experiences.** By 2022, 70% of all organizations will have accelerated the use of digital technologies, transforming existing business processes to drive customer engagement, employee productivity, and business resiliency.

**Business innovation platforms (BIP).** By 2023, 60% of the G2000 companies will build their own business innovation platform to support innovation and growth in the “new normal”.

WORLDWIDE SPENDING IN 3<sup>RD</sup> PLATFORM TECHNOLOGIES



Bubble size: Spending 2020  
Source: IDC, Worldwide Black Book 3rd Platform Edition

# Industry Predictions



## FINANCIAL

By the end of 2023, 10% of banks will use **consumer digital identities** to drive new, innovative business models thus creating new sources of revenue.

By 2022, 25% of global tier 1 insurers will be on a path to **new core insurance systems**.

By 2023, 75% of all consumer and small business loans will be originated in **AI-enabled and automated processes**.

In 2021, 25% of banks will transform their lending environments with **intelligent collections solutions** that will help recover more non-performing loans instead of writing them off.



## UTILITIES

By 2022, 35% of utilities retailers will have deployed an **integrated digital storefront** combining commodity and non-commodity businesses, thus increasing the online business by 40%

In 2021, 60% of utilities will grow investments in **advanced analytics** to detect increasing credit at risk and use targeted customer engagement programs, thus improving debt recovery rates by 30%

By 2022, 60% of energy utilities will have reassessed their **ETRM capabilities** and will better leverage algorithmic trading on intraday and day-ahead energy markets.

In deploying the hybrid working model, in 2021 40% of electricity, gas and water companies will prioritize **well-being monitoring** and enhanced personal safety, thus improving employee experience by 30%.

# Industry Predictions



## MANUFACTURING

By 2022, to support **autonomous operations**, organizations will increase their investments in data governance, digital engineering organizations, and digital operations technologies by 40%.

By the end of 2021, 90% of all manufacturing supply chains will have invested in the technology and business processes necessary for **true resiliency, resulting in productivity improvements** of 5%.

By 2023, manufacturers will reduce onsite personnel by 30%, utilizing **machine vision and AR/VR** to scale offsite to onsite expertise, delivering engineering and maintenance support from anywhere.

By 2022, due to COVID-19, 70% of consumer-facing manufacturers will leverage new **direct-to-consumer channels**, producing up to 15% more profits, improved customer satisfaction, and business resiliency.



## RETAIL

By 2021, retailers will **accelerate DX programs** by two years in two months by embracing cloud-first principles, third-party services, and systems integration partnerships.

By 2023, 80% of retailers will offer **contactless payments** and app-based scan-and-pay-systems in-store, increasing conversion rates by 40% and customer retention rates by 30%.

By 2023, following early experimenters, retailers will **accelerate intelligence capabilities** by acquiring AI technology vendors for their own competitive advantage, driving 5-10% improvement in growth.

By 2023, a major retailer will announce a completely reimagined, almost completely touchless, contactless in-store experience, leveraging voice activation and gesture and motion-sensitive technologies.

# Industry Predictions



## HEALTH

By the end of 2021, 7 of the 10 leading **wrist-worn wearables** companies will have released algorithms capable of early detecting signs of infectious diseases including COVID-19 and influenza.

Accelerated by the emergence of the new coronavirus, investments by life science companies in digital initiatives to support the utilization of **real-world evidence** will globally double by 2022.

Life science and healthcare provider companies will increase **investments in AI and advanced analytics** by 50% by 2022 to avoid future supply chain disruptions.

By 2023, 65% of patients will have accessed care through a **digital front door**, as healthcare providers look for better ways to improve access, engagements, and experiences across all services.

By 2023, digitally-enabled remote care and clinical trials will drive 70% growth in spending on **connected health technologies**.



## EDUCATION

By 2023, because of the **growth in online education**, 20% of K-12s and 40% of higher education institutions will develop new digital pedagogies and track new key performance indicators (KPIs) that impact learning outcomes.

In 2021, there will be a focus on **building and campus safety**, with 50% of educational institutions adopting technologies for **capacity planning, contact tracing, and physical safety** to manage COVID-19 and other hazards.

By 2022, 40% of educators and 20% of **parents and caregivers** will undergo **training to develop digital skills** to foster better student engagement, knowledge acquisition, and knowledge retention.

By 2023, about 25% of schools will leverage **digital identification (ID)** and **digital trust solutions** to create personalized and secured student services to spearhead greater digital accessibility and equity.

In 2021, an increase in organized and cartel-style ransomware attempts will result in 70% of schools **fortifying their cybersecurity and data encryption defenses**.

# Industry Predictions



## HOSPITALITY, DINING AND TRAVEL

By 2021, 85% of hospitality brands will implement **self-service technologies**, seeing a 30% boost in sales through channels including online, mobile, and kiosk and a 50% increase in customer satisfaction.

As a result of the pandemic, by 2022, 25% of hospitality operators will leverage DX investments to support **alternative revenue streams**, boosting the net margin by 10% and increasing customer loyalty by 20%.

By 2023, 30% of restaurants using third-party delivery platforms will deploy **native delivery options** to eliminate third-party fees, increasing profit by 15%.

By 2023, 65% of hospitality organizations will pursue significant **workforce transformation** leveraging communications, mobility, AR/VR, and cloud, driving up IT spend in these areas by net-new 8%.



## AGRICULTURE

By 2022, 55% of farms will globally adopt **digital record-keeping** practices through the use of farm management platforms as systems of record to accelerate their digital transformation journey.

By 2023, 35% of farms will use **drones** to monitor and manage crops and livestock to reduce labor costs and manage more acreage.

By 2023, 45% of the world's largest agri-food companies will have implemented a **blockchain-based food traceability** solution to provide customers with transparency from farm to table.

By 2023, 40% of crop farmers will adopt **variable rate technology** solutions to apply chemicals and irrigation to address environmental sustainability concerns and lower input costs by 15%.

By 2022, 40% of agriculture companies will use **wearables** to monitor employees' health and exposure to hazardous conditions, resulting in 60% less processing downtime and 40% fewer health-related cases.

# Now What?

After doing a deep dive into the Startup and Entrepreneurial ecosystems in Portugal, looking at the various data points, comparing them with other ecosystems, doing a survey and a round of interviews throughout several stakeholders, the big question is: and now what? This is what we're aiming to answer in this chapter.

# First, Watch Out For

In spite of the very positive evolution, the ecosystem should not rest on its laurels, as there is still a long way to go.

The world changes quickly and Portugal is not yet directly comparable to London, Paris or Berlin, for example. In fact, some international investors estimate that the country is probably close to a decade behind these reference ecosystems, and competitors like Poland, Romania and Baltic countries are closing in.

- Having a very clear sense of purpose, long term objectives and focused Value Proposition, are absolutely fundamental:
  - It starts with defining very clearly what the ecosystem wants to be - a producer of early stage? In which sectors? How?
  - Allowing for stakeholders to align themselves to objectives and establish long term priorities.
  - Rally and motivate all actors.
  - Create critical mass and drive industry leadership through specialization.
  - It is easy to understand and communicate.
- Whichever focus and priorities are defined for the ecosystem, there must be in place a clear strategy to capture locally as much as possible of the added value produced. The world is a truly global place, capital knows no borders and it is relatively easy to rearrange alignments. If the ecosystem is to be specialized, then how to make sure that its return is maximized?
- Not communicating constantly and consistently the ecosystems' value proposition, promoting and showcasing what is being done can be a capital sin.
- The existing constellation and alignment of context variables is unstable by definition, and some pressure in terms of cost can already be seen:
  - Cost is a terrible and very dangerous competitive advantage, as it's a matter of time before others like the Baltics or Poland catch up.
  - Rising costs of labour - as an example, the cost of a developer is estimated to have 2x in the past 4 years, with competitors closing in fast.
  - Real estate prices steadily rising thus affecting cost of life.

- Nothing can be done without talented people. Failing to train and retain people is a huge threat.
  - Portugal is a top exporter of talent, and will always leak talent there. What must be done is to make sure the majority will want (usually they do) and have incentives to come back and train more people, thus creating more local value.
  - The country must be able to attract international skilled talent, especially in the areas that are lacking (sales, marketing, business, and ICT). Doing this properly means that tax collection can increase substantially.
  - Talent retention - Covid-19 has demonstrated that remote work actually works. It is very easy today to setup residency in a pleasant place that suits you and work for another location elsewhere in the world. Fortunately, Portugal ticks most common criteria there, making sure it stays that way is a must.
  - Not having enough skilled talent does not work as well. The ecosystem cannot survive on a scarce talent pool, so be ware of it.

- Finally Policy, through (de)regulation and incentives can play a huge difference in the outcome of the ecosystem. Stable legal and tax frameworks, optimized for simplicity and speed, along with relevant tax nudges to stakeholders are really key.

Ironically, perhaps the most relevant threat to the ecosystem is the very same one that startups face on a daily base: failing to embrace change, learn with their mistakes and grow with a sense of urgency.



regulation and incentives can play a huge difference in the outcome of the ecosystem

## And What's Next?

There are, of course, very relevant opportunities in the horizon that should be carefully investigated and prepared. Here are a few courses of action, resulting from all the analysis done in the this report:



### ECOSYSTEM SPECIALIZATION

As critical mass is always a requirement, there are at least two possible angles.

- By stage - taking into consideration all the characteristics of the ecosystem, Portugal can be a pre-seed and seed factory (will need to understand how to locally retain the value created).
- By sectors - Technology and Bio/Healthcare are the usual suspects, but a word of mention to Impact, a fast growing one with high potential. The ecosystem seems to have an effective way of rallying together public, private and social entities and the idea of creating a cluster seems to be a very valid one.





## ATTRACT AND RETAIN INTERNATIONAL TALENT TO WORK IN, FROM, AND INVEST IN PORTUGAL

- We have already touched extensively on the importance of having a skilled pool of talent, as wide and as deep as possible, but this could easily turn into the ecosystem's Midas touch, if done consistently and strategically.
- Attracting digital nomads in a post pandemic world is certainly one of the derivations, leveraging all country's context variables.
- Special focus can be put on attracting senior executives and entrepreneurs, through a proper set of incentives. These people bring the know-how and the network necessary to train more people, and scale startups internationally.
- And yet another line of action can be to bring back the diaspora of Portuguese people, and have them actively participate in training the next generation.
- Focus on successful 2nd time entrepreneurs, that can bring the experience as well as invest in the local ecosystem. They are very important and experienced role models.
- A variation of the previous, is to attract international investors to setup residency in Portugal. A specific value proposition, actively marketed specifically to this target group, can have very measurable effects.
- These senior profiles are quite sensitive to taxes. The Golden Visa and the non usual residents programs have been absolutely key to attract them, and some tax investment in a broader package can provide serious short term returns and exponential effects on the ecosystem. A reference as well to programs like Startup Visa and e-Residency, that can also play an instrumental role.





## BRING CORPORATES INTO THE PROCESS



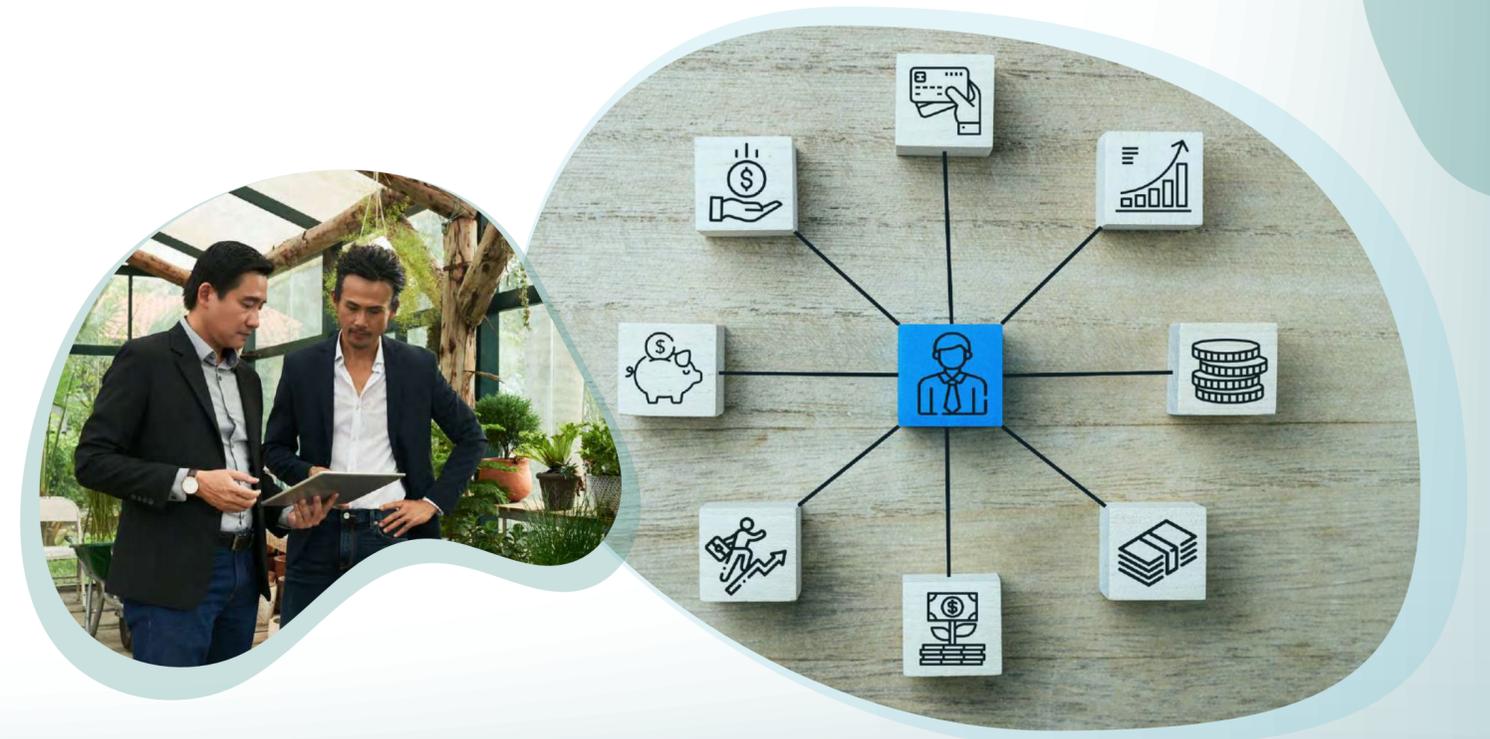
- Innovation is key to the cyclical re-invention of the big corporate world. These large companies play a key role in generating demand and catalysing the ecosystem. Programs like SIFIDE have been instrumental in creating the necessary environment for them to invest in the startup ecosystem.
- Attract added value near-shore platforms from the EU, USA and Asia. The local ecosystem can easily attract more near-shore platforms. This is not new, as there are quite a few of these around. Carefully selecting targets to whom the value proposition is not pure cost and there's significant added value is a win-win combination.



**MAKE SURE THAT CAPITAL IS FLOWING CORRECTLY**

- Capital is the blood of the ecosystem. If it doesn't flow well to where it's needed, it will create bottlenecks along the value chain. That's one of the few typical cases when a regulatory helping hand is usually called for, and there seem to be at least 2 such spots.
- The pre-seed stage, or the first 100k needed to actually develop the idea, usually FFFs (Friends, Family and Fools) and Business Angel's territory. We've seen some public money also addressing the space, but providing a tax nudge to Business Angels can have a multiplying effect that makes sure we have enough startups in the very first stage. That will then result in a healthy and diverse ecosystem.
- More advanced stages require slightly different approaches. The existing examples of matching funds (with private investors leading and public money following), and fund of funds approaches (with public money being a Limited Partner in a VC fund), are both quite welcome in the market. The challenge here is to increment firepower and support more funds, in order to increase breadth and ability to follow on rounds, in the scaleup phase.

- An initiative that would really make a world of difference would be a tax benefit for institutionals (like pension funds) to allocate a (even small) percentage of their assets under management to the venture capital asset class. It could generate a substantial inflow of capital into the ecosystems, with a parabolic economic effect in the economy.
- Another strategic initiative would be generating a virtuous cycle of entrepreneurs (both local and international) turned Venture Capitalists or Business Angels. These in turn would have a flywheel effect of funding the next generation of startups, and accelerating the process very quickly.





### BE THE REFERENCE ENABLEMENT AND TRAINING PLACE FOR TECHNICAL AND BUSINESS SKILLS

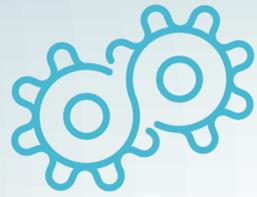
- Combining a set of very senior people with a young and eager to learn population eager to learn can be a very powerful accelerator of the ecosystem. It is an additional challenge to the Academia and the private sector, but positioning the country as an education cluster of excellence can provide decades of competitive advantage.
- There's a cultural transformation to be done, and school is the right place to start: startup culture, investing culture, meritocracy, failure with integrity is ok, appetite for risk, are all important messages.
- Academia can then follow up with technical and business skills, and producing these skillsets in quantity and with a certification seal. This can be combined with the previous topic, attracting people that want to be trained and therefore feeding the talent pool.
- On the Enablement side, access to best in class practices is a powerful catalyst. The local ecosystem seems to have the regional coverage worked out through incubators and accelerators, now it's time to go for the next step in terms of content, synergies and world leadership that can also bring an element of certification to the table. Well known international incubation programs (like YCombinator, for example) would fit the bill.



### SERVE OTHER MARKETS (European Union and Portuguese speaking world) FROM PORTUGAL

- Many international companies looking into serving the European market can find in Portugal a very interesting place to setup first a beachhead, and then regional HQ. It is geographically efficient, agreeable, cost effective and, if there's skilled talent around, an unbeatable value proposition. Brexit also opens another excellent argument in favour of the idea.
- Be the point of entry into Portuguese speaking countries. Latin America and Africa are quite underserved and therefore interesting markets. Tightening the bonds with the other Portuguese speaking countries and creating privileged business bridges can be a very powerful and differentiated value proposition.
- All the better if there are incentives for setting up such regional HQs in the country and make sure that decision and taxation remain local.





## POLICY & REGULATION

- Creating the right incentives for the right stakeholders and making sure they all align together is not an easy job. When attracting people and businesses, simplicity, straightforwardness, clarity, stability, predictability are adjectives that mean a world of difference. Optimizing iterations with Public entities for speed and simplicity is a huge added value. There has been significant progress in the past years, others are catching up quickly, there's no reason to stop now.
- Ease of opening and doing business, as well as the ability to enforce rules through a simple and speedy judicial system are again key.
- Clear common standards and definitions (the recently announced european-wide Startup Nation Standards), together with a central observatory (the European Startup Nations Alliance), harmonizing concepts and public policies, and laying a framework for development and benchmark can play a relevant role in making sure efforts are coordinated.
- A focused approach can also go a long way, and the country has announced 3 relevant national strategies (AI, Data and CyberSecurity), that now must deliver on the promise.
- Continuing to involve Regulators in the startup process is a very relevant asset – it provides a front row seat in terms of understanding what is happening, evaluating possibilities to remove barriers when necessary, validating when to step in if required, and designing rules for new areas as they are being created (crypto and healthcare pop to mind, for example). There are already some good examples of regulatory sandboxes (called ZLTs – free zones for technology) for fintech, which can serve as a learning experience of what's to come.
- Startups also require an agile and crystal clear accounting and reporting framework that builds trust amongst all stakeholders. They are often quite specific and require adapted rules.
- Finally, a challenge for Policy makers – why not actively innovate and be a world reference with regulation, tax incentives and new ways of driving stakeholder's behaviours?





**BRINGING IT ALL TOGETHER** – Cross-collaboration, Serendipity, Catalysts & Communication

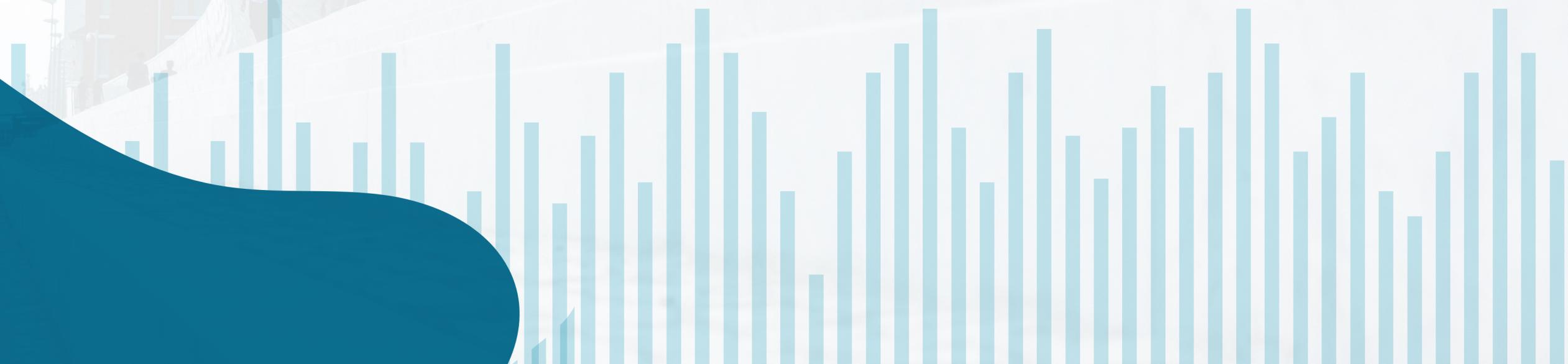
- Creating forums where all stakeholders can come together is a major catalyst. Creative processes require people with diverse points of view to share views, opinions and collaborate. Promoting such regular forums is an incredible platform upon which an ecosystem can build.
- Some specific relationships require more targeted, work, such as Research & Development at Academic level and Corporations, Corporates and Startups, or Regulation and Startups. Targeted events can address these requirements very effectively.
- The scaleup process is also key – unicorns and candidates need to be very well taken care of, especially during the internationalization phase. A helping hand from Policy in terms of promotion, know-how transfer and local delegations in key destination markets goes a long way. Corporates also have a role to play here, especially the ones with international presence, that can open relevant doors and help expansion.

- A consistent Marketing and Communication strategy, making sure that what is being done is promoted and showcased to relevant people is a big must. Startups need to showcase and model to both local and international investors, which in turn also seek dealflow. Local investors also need to raise capital internationally. General events like the WebSummit are absolutely necessary, and a well design program around specific topics (fintech, impact, so many come to mind) can establish international thought leadership of the ecosystem. And success stories belong out there, we need heroes and role models!





# Portugal is a Digital Nation





Interview with the Secretary of State for the Digital Transition

## Portugal is a Digital Nation

With 160 incubators, more than 2000 active startups and 434,5 million euros of investment raised in 2020, the Portuguese entrepreneurial ecosystem is among the best in Europe.



**André Aragão de Azevedo**

Secretary of State for the Digital Transition

Lisbon will host the headquarters of the Europe Startup Nations Alliance (ESNA), a European entity that aims to help create conditions of excellence in the development of startups and scaleups, from Europe to the world.

But how is our country in terms of its entrepreneurial ecosystem? How have we evolved in recent years and what is the Government currently doing in this matter? André de Aragão Azevedo, Secretary of State for the Digital Transition spoke with IDC about this topic.



Let's start with a retrospective of what were the last few years in terms of evolution of our entrepreneurial ecosystem and startups in Portugal. Ten years ago, we had practically nothing and today we are on the world radar. What has changed?



It is now clear that Portugal is recognized as a startup nation. We have more evolved ecosystems, on our scale, in terms of entrepreneurship and startups in their triple dimension: the number of startups and creation dynamics, with more than two thousand startups registered and with effective activity; then, regarding the network of incubators and accelerators, we have about 160 incubators distributed throughout the country with a significant representation and the guarantee that, in almost all areas of the country, we have the capacity to support the growth dynamic of startups; finally, the third pillar related to investment, with a very interesting proportion from the point of view of evolution. There has been a growth of national players that play the role of investors in their multiple formats, but also reinforcing the capacity of the ecosystem as a whole, to attract more international investors who look at our market with interest. In 2020, we had 434,5 million euros of investment raised for our ecosystem.

**ESNA: from Lisbon to the World**



**How can we lead the European agenda in this matter?  
Is ESNA a first step?**

Yes, but not only. We managed, during the Portuguese Presidency of the EU, to assume entrepreneurship as a strategic political priority and we moved forward with the Digital Day, which allowed us to create a common framework of requirements so that each country knows how to become a startup nation. We also want to combat what seems to us to be one of the biggest reasons for failure in terms of European ecosystem performance, which is excessive fragmentation. When a startup wants to evolve from Portugal to Spain or France, it is always dealing with different laws and legal frameworks, which delay the internationalization process and shifts startups to the American market. These newly approved standards by the 27 countries were a very important commitment in this field.

Equally important was, as I said, attracting to Portugal the European structure of entrepreneurship, the Europe Startup Nations Alliance which, together with the Web Summit, will allow us to reinforce our country's role in this area and help attract more entrepreneurship to Portugal.



**From the dozens of meetings held by IDC with foreign national stakeholders, and from the survey carried out with national startups, the feedback is very positive, but some flaws in the country were pointed out in terms of communication, bureaucracy and the tax regime. How do you comment on these opinions?**

Portugal defined a set of guiding principles in the Action Plan for the Digital Transition and the topics you mentioned are included there. First, a serious commitment to having credible information — we want to be measured and target the impact of all measures, giving public accountability for the value we are generating. Another guiding principle of our action plan is communication: what is not communicated does not exist and is not worth it. We want to be consistent and learn from whoever was more successful in this matter. In this regard, we are already working with AICEP so that the international photography of Portugal is not only tourism, sea and gastronomy, but also a Digital Portugal in a first world economy, avant-garde in terms of technological incubation.

With regard to the tax regime and bureaucracy, what we see is a growing trend of companies with different profiles looking at Portugal as an investment destination, saying that the tax regime, on the corporate side, is not even a problem; and I believe that we have a very attractive tax regime for non-regular residents, with a very low residual value.

In terms of simplification and reduction of bureaucracy, it is very clear that we are one of the countries with a more advanced electronic government and this is confirmed with services such as Empresa na Hora, which has been established for 10 years, while many countries don't have anything similar yet. But of course, it is always possible to do more and better, but there is no doubt that Portugal, in terms of eGov, is very well placed.



**And from the point of view of human capital? How is the country?**

From the point of view of human capital, we know that we still have a country at two speeds: we have Portugal under 50 years old, which is above the European Union average in terms of digital qualifications, digitization, competitiveness or quality of training; and there is Portugal over 50 years old that has below average digital literacy rates that, on combined average, pulls us down. The challenge is to work in a single Portugal and bring to the present-day people who, in some way, were left behind.

**Duplicate the size and dynamics of the ecosystem by the end of the legislature!**



**And from here on? what do you propose to do?**

What we have been trying to do is to enter a new cycle of investment in this area of entrepreneurship, capitalizing on the country's established international recognition, but creating conditions for an even more ambitious leap in terms of evolution. And the reason I find for this success has to do with a clear political commitment at a given time and which was then continuously followed, regardless of the parties that took over Government. The arrival of the Web Summit reinforced this work and has put Portugal on the map... definitively!



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Contributor



The logo for 'axiens' is centered in the image. The letters 'a', 'i', 'e', 'n', and 's' are rendered in a blue, lowercase, sans-serif font. The letter 'x' is rendered in a magenta color, also in a lowercase, sans-serif font. The background is a light blue, semi-transparent overlay on a photograph of a modern building with a curved facade and a paved walkway. A person is walking on the left side of the image, and there are decorative blue shapes in the bottom right corner.

axiens



**Bernardo Correia**  
Google

Google was born 22 years ago. I joined the company 12 years ago in London and so I witnessed its unique growth. Despite this and our presence today in more than 50 countries we have never lost the startup mindset and we continue to work to ensure our products improve the lives of millions of people everyday. It is therefore with great satisfaction that we support initiatives such as this study, particularly useful at a time of tremendous disruption, which will give us a clearer picture of the startup ecosystem in Portugal.

After launching Atelier Digital, responsible for training over 35 thousand people last year alone and over 100 thousand throughout its existence, after launching Android Training Program in 2018 to upskill thousands of Portuguese in coding

for mobile, and also launching the Startup growth Lab in 2019, we have now brought Startup School to Portugal. Adapted specifically to the Portuguese reality, this represents yet another commitment from Google Portugal to support entrepreneurship, independently of the company's size. With it, we aim to enable startups to acquire more tools and the necessary skills to continue to be an engine of growth to our economy.

Startups are the driver of digital transformation and so we continue to invest in Portugal to support all companies throughout this digital maturity journey by using the best of Google: our products, best practices and the experience of every individual that's part of each company to support the sustainability of the businesses and to continue to generate growth and employment. Ultimately, to help create a better country for everyone. It is an honor to support our entrepreneurial ecosystem in these challenges, and in 2021 we will continue to collaborate with businesses and government to face the future with optimism. I'm sure that, with the insights uncovered by this report, the way forward will become a little bit more enlightened.



# Our commitment to innovation, also in Portugal



**Diogo Madeira da Silva**  
Head of Public Affairs & Communications,  
Huawei Portugal

Huawei was established as a startup, 30 years ago, as sales agent for a company producing PBX switches. The fact that, today, the company is still owned by its employees is one of the reasons why is able to invest so much in innovation and long term value.

Innovation has been fundamental to Huawei's survival and development over the past decades. Over the years the company has established research and innovation partnerships with over 300 universities and more than 900 research institutes and firms. Following the principle of open innovation, we want to leverage global innovation resources and attract professionals from around the world to collaborate on research. We will do it by taking into consideration the challenges facing businesses and academic insights, as well as the confidence of venture capitalists to jointly innovate. The concerted push for innovation will allow our accomplishments to be shared across both our industry and society as a whole, lighting the way forward for the world and Huawei.

Portugal's relationship with Huawei dates back to two decades ago, when Huawei was chosen to deploy the very first 3G HSDPA network of Europe in Madeira. Last decade, Huawei helped Azores, building submarine cables that connected remote areas. Huawei's commitment to bridge the digital divide for Portugal was not only shown by bringing the outcome of all our investment in R&D to our customers and partners in the country, but also through a heavily investment in local ICT talent development.

Our flagship program, Seeds for the Future, allowed dozens of students the chance to visit our headquarters and learn with our experts. Through our ICT Academy we are partnering with universities from all over the country, transferring knowledge and certifying skills. The Huawei scholarships and partnerships with universities will allow students an easier access to education, in line with the common goal of not leaving anyone behind.

This year we are officially launching the 5GAIner - 5G+AI Network Reliability Center, a joint project with the University of Aveiro and Instituto de Telecomunicações to facilitate the testing, in different vertical markets, of new solutions based on the latest generation of networks. This is one more contribution from Huawei to the local ecosystem and will provide to entities based in Portugal - universities, researchers, startups, and other institutions from private and public sector - access to a cutting edge platform. As I write these lines, there are already factories in Portugal testing new solutions with the support of our technology.

Looking to the future, Huawei's innovation will transition as we move from an Innovation 1.0 era to an Innovation 2.0 era. In Innovation 1.0, we have focused on innovations in technology, engineering, products, and solutions to address customer needs. In Innovation 2.0, driven by our vision, we will expand our efforts in theoretical breakthroughs and basic inventions.

As we enter this new era, Huawei will further ramp up investment into innovation, taking it to the next level and constantly delivering value to the Portuguese society and ecosystem.

# Mastercard Start Path, the path to future unicorns.



**Maria Antónia Saldanha**  
Country Manager Mastercard Portugal

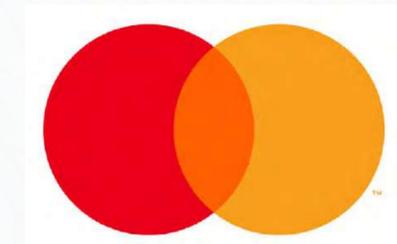
Our collective future depends on our ability to turn disruptive and innovative ideas into solutions that can contribute to a better world, whether economically or environmentally.

Innovation also introduces a fundamental dynamic to our development because it challenges the status quo and seeks new efficiencies so that we can produce more, with fewer resources.

Much of this work has been enhanced and leveraged by start-ups all over the world, including in Portugal. In fact, Portugal has played a leading role in this domain, having created a favourable environment for capturing and developing this innovation cycle, which is evident in this IDC study.

In this regard, it is worth highlighting the role of Mastercard in accelerating these innovation models and through which some Portuguese start-ups have already passed, including the renowned Defined Crowd.

Particularly with the Start Path program ([www.startpath.com/global/](http://www.startpath.com/global/)) that Mastercard began several years ago, and which supports start-ups to accelerate their innovations, through collaboration models that integrate our global network of



clients and partners and that aims to reduce the time-to-market of solutions and increase investment opportunities. The program lasts six months and is characterized by involvement with Fintechs and start-ups with cross-cutting solutions and technologies that can accelerate the validation of trends that define the future of commerce and financial services.

But not only. Mastercard is committed to building a more inclusive digital economy, which includes, for example, supporting small entrepreneurs, who are not always able to access capital, to expand their businesses economically and efficiently, and, with that, bring 50 million small and medium-sized businesses to the digital economy, 25 million of which are women entrepreneurs or minority-led.

Since it was created, the Start Path program has evaluated more than 10,000 start-ups worldwide and recently brought together around 200 of these start-ups that, together, raised a total of 1.2 billion euros in capital after having gone through the program developed by Mastercard.

In fact, the obstacles that start-ups face are identified. Among them, the difficulty in capturing the investment necessary to scale up and make their solutions viable – something that was aggravated by the pandemic –, and the definition of a strategy consistent dissemination and expansion of the business globally.

This IDC study is, therefore, an important contribution so that the national ecosystem can generate more start-ups, which, later, can benefit from programs such as Start Path to achieve the desired success.



# 5G accelerating collaborative innovation

João Ricardo Moreira, NOS Comunicações Board Member

The relationship between tech startups and the corporate world is intriguing and complex. Big companies want to be a startup when it comes to innovation and agility in time-to-market. Startups want to be a big company, with a large customer base and structured processes that unfurl into consistent results.

These are two worlds with very different cultures which increasingly need each other to survive or even thrive in this society that changes at the speed of 5G. They have a common need for growth, improved competitive positioning and revenue generation. On opposite ends, all the procedural and bureaucratic weight of a well-established company versus the speed and agility of a newly created company.

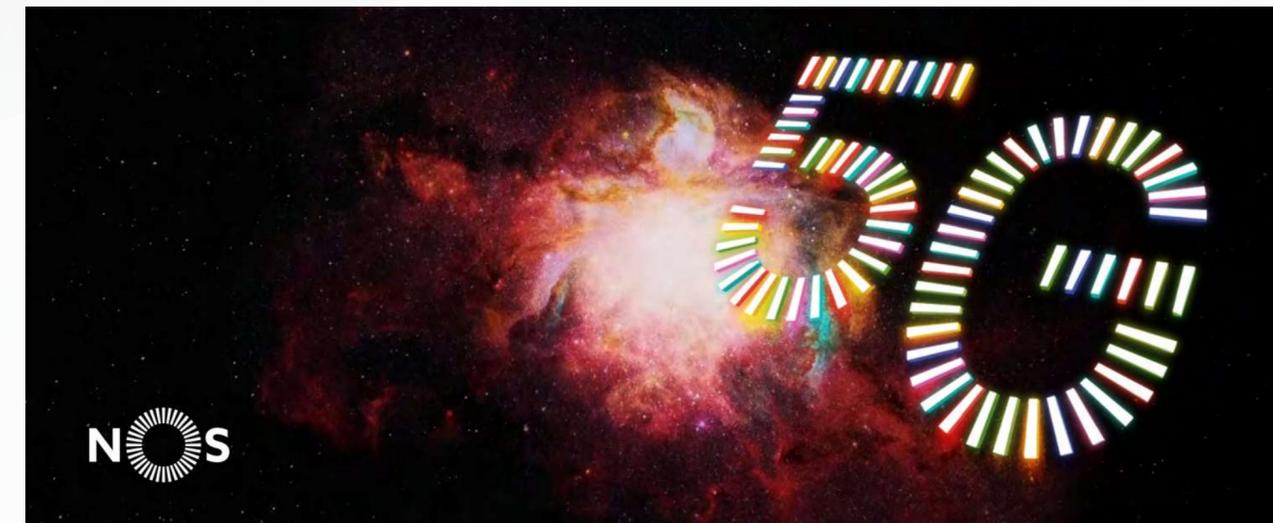
Technology has been challenging established business models and revolutionizing corporate culture. The new innovation ecosystem wants to assert itself in a market populated by incumbents. The magic recipe lies in the association between large companies and startups, both in the search for disruptive innovation and engaging incremental innovation. This is why we understand that the participation in events such as acceleration programs and incubators is fundamental, in order to facilitate this exchange of beneficial experiences for everyone involved.

In this sense, NOS occupies a privileged position in the new technological ecosystem, due to its commercial and institutional relationship with large companies, its consistent investment in innovation and for its regular promotion and participation in startup events. We recently launched *Acelerador 5G* - Collaborative Innovation Program. This initiative organized in partnership, aims to accelerate 5G transformation and innovation in Portugal, in which startups most committed



to launching new solutions based on 5G technology or in boosting current business models through the application of 5G will be selected.

We believe that a technology as disruptive as 5G is a strong reason to bring together companies with different needs, visions and capabilities, which will certainly bring greater impact in a future that needs everyone's input. 5G brings us a new paradigm of innovation started by companies, which will bring countless benefits to all users. *Acelerador 5G* allows us to achieve what we believe is the epitome of 5G: doing what no one else has done, boosting impactful innovation on a better society.



## Compliance by design: How can law and regulation be an asset for start-ups

Navigating the digital world's regulation is critical to explore its full potential, and compliance by design is a powerful tool for such a purpose.

According to the Startup & Entrepreneurial Ecosystem Report 2021 prepared by IDC and Startup Portugal, there were 2.159 start-ups in Portugal in 2020 across very different industries, most of which leveraged on technology. Data are a common factor to these new projects and at the epicenter of the most innovative solution and emerging technologies, such as AI, IoT and DLT

Data-driven innovation presents manifold opportunities for companies, including start-ups and scaleups, irrespective of their industry, and can bring enormous benefits for individuals, but also presents some challenges, as customers – both individuals and businesses – are increasingly aware of privacy, security, and sustainability issues. Companies should therefore put these topics at the top of their agenda, as customers tend to embrace products and services of companies that are transparent about their processes, follow ethical principles and ensure privacy and security.

In order to identify and assess privacy and security risks, start-ups should consider the entire lifecycle of technology and the specific data value chain. Through this risk-based approach, companies can deploy technical, organizational and legal measures as early as the design phase to promote data protection and security by design – concepts and features which increasingly add market value to products, services and technologies. When selecting the measures to be implemented, start-ups should consider the state-of-the-art, the implementation costs, the unique characteristics of their application and the likelihood and severity of risks for individuals.



Additionally, start-ups and other companies should also develop clear ethical governance and incorporate ethical principles throughout their technology lifecycle since most emerging technologies, such as DLT, AI and IoT are currently not subject to a specific national or EU law (although they are subject to Data Privacy, Cybersecurity and other legal frameworks “ruling” the digital economy). It is worth noting that AI-related steps have already been taken at EU level, namely the work carried out by AI HLEG in its **Ethics Guidelines** and **Assessment List** on trustworthy AI. As technology-specific regulations are published in the future (we note the recent **Proposal for a Regulation on a European Approach for AI**), additional obligations may arise, and start-ups should keep a close eye on legal evolutions.

It should also be noted that as the European Commission is working towards creating data spaces for key sectors, compliant start-ups will be able to participate in, access, and use the data powering the EU Data Economy. Start-ups may even gain more advantages from Data Economy, if they comply with the legal and regulatory challenges at national and EU level.

In conclusion, start-ups should not feel intimidated by the obligations, enforcement risks and high fines for non-compliance. On the contrary, instead of trying to solve problems and mitigate risks ex-post, start-ups should harness the potential of legal compliance as a market asset and a valued feature for clients and consumers by developing forward-looking compliant solutions through the deployment of ethics, security and privacy by design measures.

# Becoming a sustainable business with SAP



**Nuno Saramago,**  
COO, SAP Portugal

SAP's vision is to enable organizations to successfully transform their businesses into intelligent, sustainable enterprises. Collaborating closely with our customers and partners, we help to optimize their material, financial, and energy flows throughout end-to-end business processes in order to address planetary challenges.

We aim to enable emissions reduction and help tackle the ocean plastics crisis with our industry expertise and extensive business network. We aspire to infuse sustainability into all relevant core business processes by focusing on regulatory compliance, operational excellence, and responsible innovation and growth — going beyond the traditional scope of value creation.

We believe that the path to a low-carbon future is circular. Only when businesses are moving beyond their siloed approaches, commitments and climate pledges, fully embracing sustainability and embedding these ambitions in an integrated way will we be able to drive systemic change. The good news is that a circular economy is not just about fixing environmental wrongs. Evidence shows it can bring big opportunities and drive positive impact across industries, sectors, and lives. Working toward a circular economy can protect human health and biodiversity in many ways, including better use of natural resources, such as protecting water and land, thus mitigating the climate crisis.

The role of a circular economy must expand to successfully reduce emissions across sectors, as it is an essential component to achieving climate neutrality.

Sustainability management by SAP, launched last month at the first [SAP Sustainability Summit](#), showcases our suite of sustainability solutions that can help organizations in their journey to becoming a sustainable enterprise. We aim to enable organizations to assess and reduce their carbon footprint, increase resource productivity through circular processes, and run safer, sustainable business processes. This will also include industry-specific insights that combine operational and financial data across value chains embedded in core business processes.

Our portfolio addresses four dimensions of sustainable transformation: **Climate Action and Carbon Footprint Management** (with [SAP Product Footprint Management](#)), **Circular Economy** (with [SAP Responsible Design and Production](#)), **Holistic Steering and Reporting** (SAP Sustainability Control Tower), and **Socially Responsible Value Networks**.

With sustainability management by SAP, we embed sustainability as a new dimension of success while delivering incremental innovations in our sustainability product portfolio, which is modular, integrated, and embedded along end-to-end business processes in the Intelligent Enterprise. To achieve these ambitious goals, we need to continuously challenge ourselves and work together with customers, partners, non-governmental organizations (NGOs), and regulators for sustainable product life cycles across the value chains.

We are delivering jointly on the United Nations Sustainable Development Goals (UN SDGs) through the [SDG Ambition accelerator](#).

[Learn more about our innovation journey here.](#)



## BBVA Open Innovation

BBVA's Open Innovation unit is charged with ensuring the bank stays up to date with the latest fintech disruption happening anywhere in the world.

The Open Innovation team is the unit within BBVA charged with forging connection and partnerships with the world's fintech entrepreneurs. The aim is to build partnerships that can bring new products and services, both to the bank and as importantly, to its customers and clients.

Therefore, we support the most promising startups, to attract innovation.

We passionately believe in the important role the fintech startup community does, and will continue to, play in the future of this industry, and working in collaboration with this ecosystem is just one element of BBVA's wider commitment to ever more open banking.

Discover more about our initiatives like: Open Talent, Open Summit, Open Space, Open Talks and Open Marketplace at: <https://openinnovation.bbva.com/>



## Claranet Portugal: from pioneering startup to a benchmark in end-to-end IT services

The origins of Claranet in Portugal tell a story of innovation and entrepreneurship, which is intertwined with the early days of the Internet. In 1994, António Miguel Ferreira was one of the founders of Esoterica - the first private Internet Service Provider (ISP) in Portugal, responsible for the first unlimited Internet access service. The innovative character and fast growth of this startup quickly caught the attention of international operators. Four years later, Esoterica was acquired by the North American Via Net.Works and, in 2005, it was acquired by Claranet, one of the pioneers of Internet in the United Kingdom in 1996, which today is one of the main providers of Cloud, Cybersecurity and Workplace services in Europe and Brazil.

Claranet Portugal was created and António Miguel Ferreira remained at the head of the company. As a member of the Executive Committee of the Claranet group, he is now also responsible for Spain and Brazil.

More than 25 years after the beginning of an adventure with the Internet as background, Claranet Portugal registers around 120 million euros of annual revenues, generated thanks to around 2 thousand business customers and with the dedication and experience of more than 600 employees in the Portuguese market. Claranet Portugal is one of the 3 largest Claranet operations in Europe.

# enter

Ready to StartUp

Altice commitment to Portugal is not limited to connect people and the territory through advanced connectivity (developed by Altice Labs). Altice Labs, Altice Group's R&D&I Centre, located in Portugal, is itself an evidence of this commitment.

It's capacity to bring up innovative solutions is amplified in the innovation ecosystem around Altice Labs with academia, startups, industry and public entities. Altice Labs' laboratories inside university campus, are a catalyser for entrepreneurship for bringing together the knowledge and the challenges from the industry or society, while facilitating the transformation of the theoretical knowledge into practical solutions in benefit of society and the economy.

With ENTER, hundreds of startups are screened every year. The connection to incubators all over the country and Regional Poles enables incorporation of local solutions and to expose them to international geographies.



# FIDELIDADE

SEGUROS DESDE 1808



Fidelidade has been building a culture of innovation by putting the consumer at the very epicenter and heavily leveraging on technology as a key enabler – this aims to be more than an exercise, a concrete shot to make a difference. Our dream has gone global.

We've come a long way since we started this journey of supporting new ideas that would infuse Portuguese economy. With a fresh perspective of a “new exponential world”, we structure our view through an ecosystem approach, focusing on insurance, assistance, health & wellbeing and savings by placing innovation on our DNA.

Innovation at Fidelidade follows a value chain, i) Explore, identify, validate and filter trends and opportunities; ii) create and pilot new value propositions (build, measure and learn) and iii) launch, scale and monetize, always with multidisciplinary teams involving both internal and external stakeholders. Therefore, we were able to create easy access to resources, to grow, learn and set up new goals for ourselves - Fidelidade, as well as to key stakeholders. With these goals in mind, in 2016 Fidelidade and Fosun launched Protechtig, an open innovation program designed to connect top startups in the areas of insurtech, fintech, and healthtech with successful companies such as Fosun, Fidelidade and Hospital da Luz. Together, we are “protecthing” people and property, we are improving people's lives, which is the most important responsibility a great company should undertake.

We must recognize how technology brought us together during the pandemic times and how important it is to do things in a distinct way, to create and continuously innovate.

*May we all commit to this purpose of a healthier, more sustainable world, where people live longer and happier. That is what innovation is about.*



## Hewlett Packard Enterprise



The Imprensa Nacional - Casa da Moeda (INCM) - Official Printing Office and Portuguese Mint - is nowadays a leading company in many of its operation areas thanks to its culture of innovation capacity. We have a collaborative network of 53 partners made up of universities, laboratories, research centres and start-ups, involving more than 80 researchers.

This network innovative scheme, together with an annual investment of 1% of its turnover in Research and Development, allows the INCM to develop sophisticated security technology, which it incorporates into the products and services it provides its clients, both in Portugal and abroad.

The dynamics and synergies generated by this close connection between Academics, Industry and Businesses, which have already resulted in 2 registered trademarks and 5 technologies patented by the INCM, have shown how it is possible to value scientific knowledge produced in the country, creating opportunities for its effective materialization, to the benefit of economy and society.

We are committed to thinking about the future with an open innovative culture.

## MIND OVER DATA

Mind Over Data (MOD) is a boutique consultancy operating in the area of Machine Learning and Artificial Intelligence. MOD's mission is to help businesses leverage data for competitive advantage through increased revenue, cost reduction, or process optimization. Some of our recent projects include solutions for data monetization in big retail companies, fraud detection in insurance and automotive, optimization of lotteries and betting, people analytics and customer intelligence. We have offices in Lisbon - Portugal, and Sydney - Australia, and over the years we attracted a team of world-class data scientists and engineers strengthened by our close relationship with academia and research.



### We promote entrepreneurship through higher education

We start by promoting training and ideation, up to supporting technology transfer through start-ups and scale-ups

At Banco Santander we have a firm commitment to progress and inclusive sustainable growth, with a long-standing commitment to higher education over the last 25 years.

We see our commitment to higher education as an opportunity to help people and companies progress and we channel our efforts through Santander Universities, a unique and pioneering global programme that offers education, employability and entrepreneurship opportunities to university students and employees (Santander Scholarships) and training and support for the growth and transformation of innovative start-ups and SMEs (Santander X). From the outset, we have invested more than €2 billion and awarded over 630,000 scholarships and grants.

Through Santander X, Banco Santander's global entrepreneurship community, we support the training and development of innovative startups, and we promote the internationalization and digitization of SMEs, accompanying the entrepreneur in each of the stages of their journey.

In Portugal, Santander Universities, supports more than 35 entrepreneurship programs in Universities and that aim directly at 1500 students yearly.

To know more, check <https://www.santander.pt/institucional/banca-responsavel/santander-universidades>





Zertive has more than 20 years of business and technology consulting. Zertive was created to occupy the space between business needs and technology capabilities as a totally independent player from technology vendors. Its projects span multiple sectors in a 3-stage lifecycle that can be broadly characterized by: (1) identifying business needs/challenges that can be overcome through innovation and digital transformation, (2) sourcing the required technology and related services and identifying/applying to funding opportunities and (3) managing and monitoring the implementation of initiatives. Although not all Zertive's projects include all 3 stages, the company holds a relevant track record of close collaboration with its clients building long lasting trust-based relationships. The startup space is a particularly good match to Zertive's practice DNA as overcoming infancy challenges is part of a startup job description.



## Scope and Methodology

The purpose of this study is to provide a comprehensive and in-depth view of the Portuguese startup and entrepreneurial ecosystem. It provides a detailed view of where we are today, who are the major players, what are the key KPI, how Portugal compares with other nations. It is also the voice of entrepreneurs that chose Portugal as the best place to start-up.

In addition to the number of startups and information about policies, regulation, public incentives, capital, talent, corporations, and key enablers of the ecosystem, this report analyzes key emerging trends, challenges, opportunities, and what is next for the Portuguese ecosystem.

This report was developed based on existing IDC research, public data, a survey carried out among more than one hundred startups founders, and more than 30 in-depth interviews with key ecosystem's stakeholders.

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Due to the dynamics of the ecosystem, this **report is constantly being updated.**

[Download](#) the latest version here!



Thank You!

